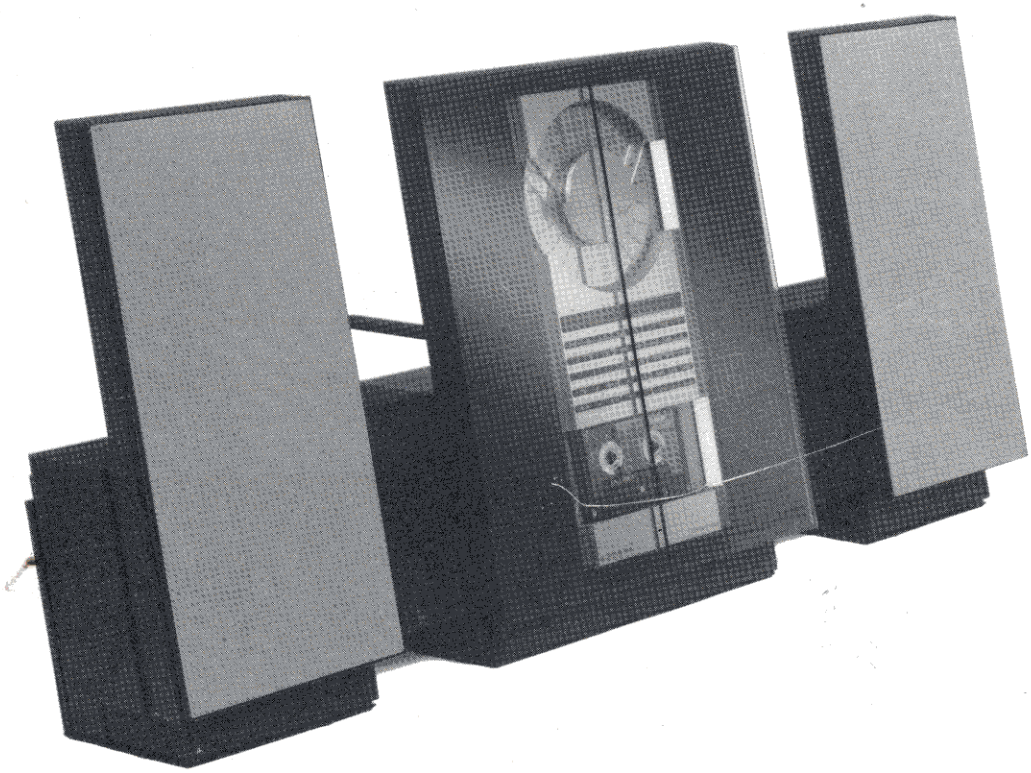
Description de Circuits



Beosystem 2500

Bang & Olufsen University

FM TUNER

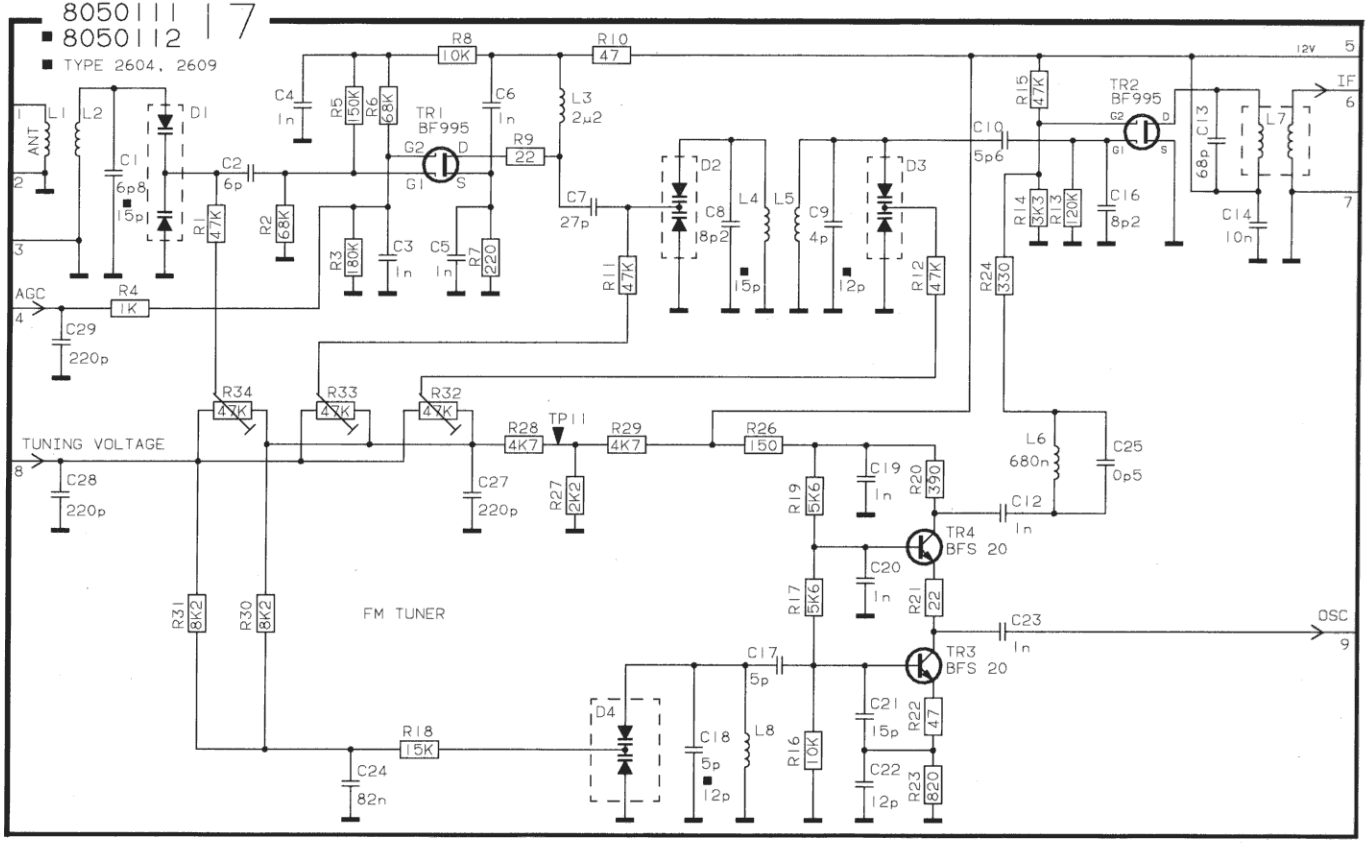

8050111 | 7
8050112
TYPE 2604, 2609
ANT
L1
L2
C1
6p8
15p
D1
C2
6p
R1
47K
R2
68K
R3
180K
C3
In
C4
In
R5
150K
R6
68K
TR1
BF995
G2
D
G1
S
C5
In
R7
220
R8
10K
R9
22
C6
In
L3
2µ2
R10
47
C7
27p
R11
47K
D2
C8
18p2
L4
15p
L5
C9
4p
D3
12p
R12
47K
12V
5
C10
5p6
R15
47K
TR2
BF995
G2
D
G1
S
R14
3K3
R13
120K
C16
8p2
C13
68p
L7
C14
10n
IF
6
7
R24
330
AGC
4
R4
1K
C29
220p
R34
47K
R33
47K
R32
47K
TUNING VOLTAGE
8
C28
220p
C27
220p
R28
4K7
TP11
R29
4K7
R27
2K2
R26
150
L6
680n
C25
0p5
R19
5K6
C19
In
R20
390
C12
In
TR4
BFS 20
C20
In
R17
5K6
R21
22
C23
In
OSC
9
TR3
BFS 20
C17
5p
R31
8K2
R30
8K2
FM TUNER
D4
C18
5p
12p
L8
R16
10K
C21
15p
C22
12p
R22
47
R23
820
R18
15K
C24
82n

DIAGRAM A FM/AM, RF, IF decoder

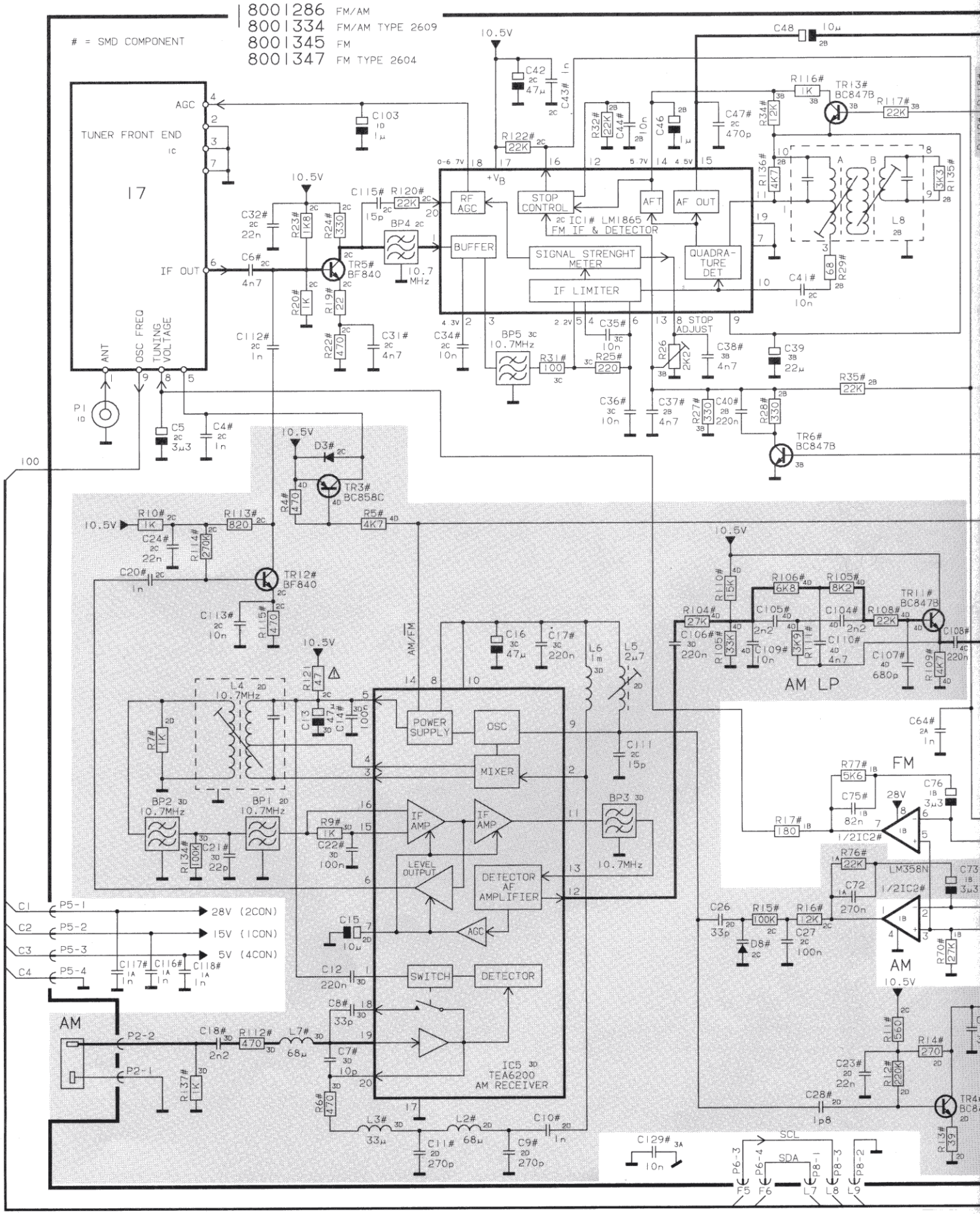


DIAGRAM A

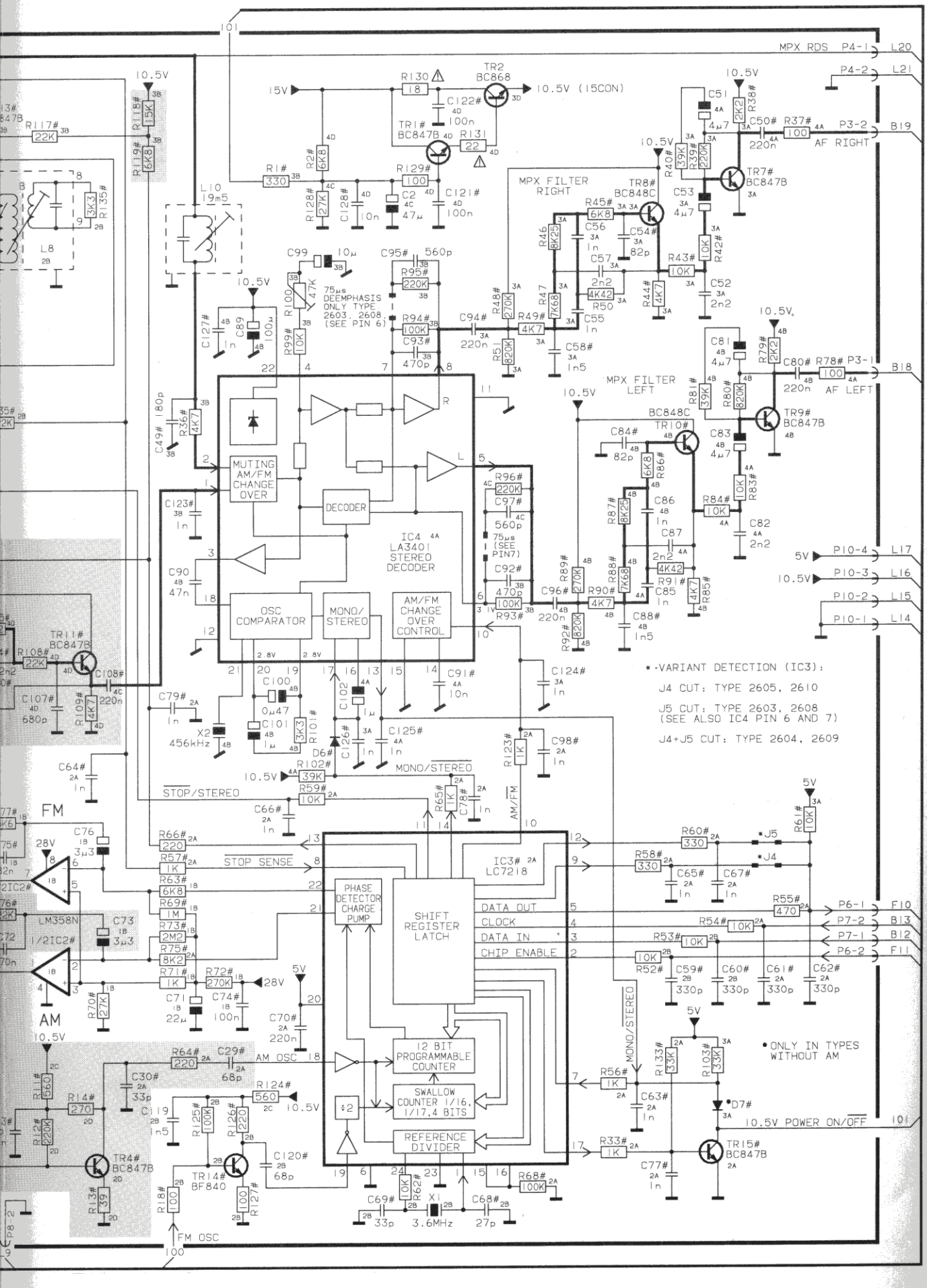
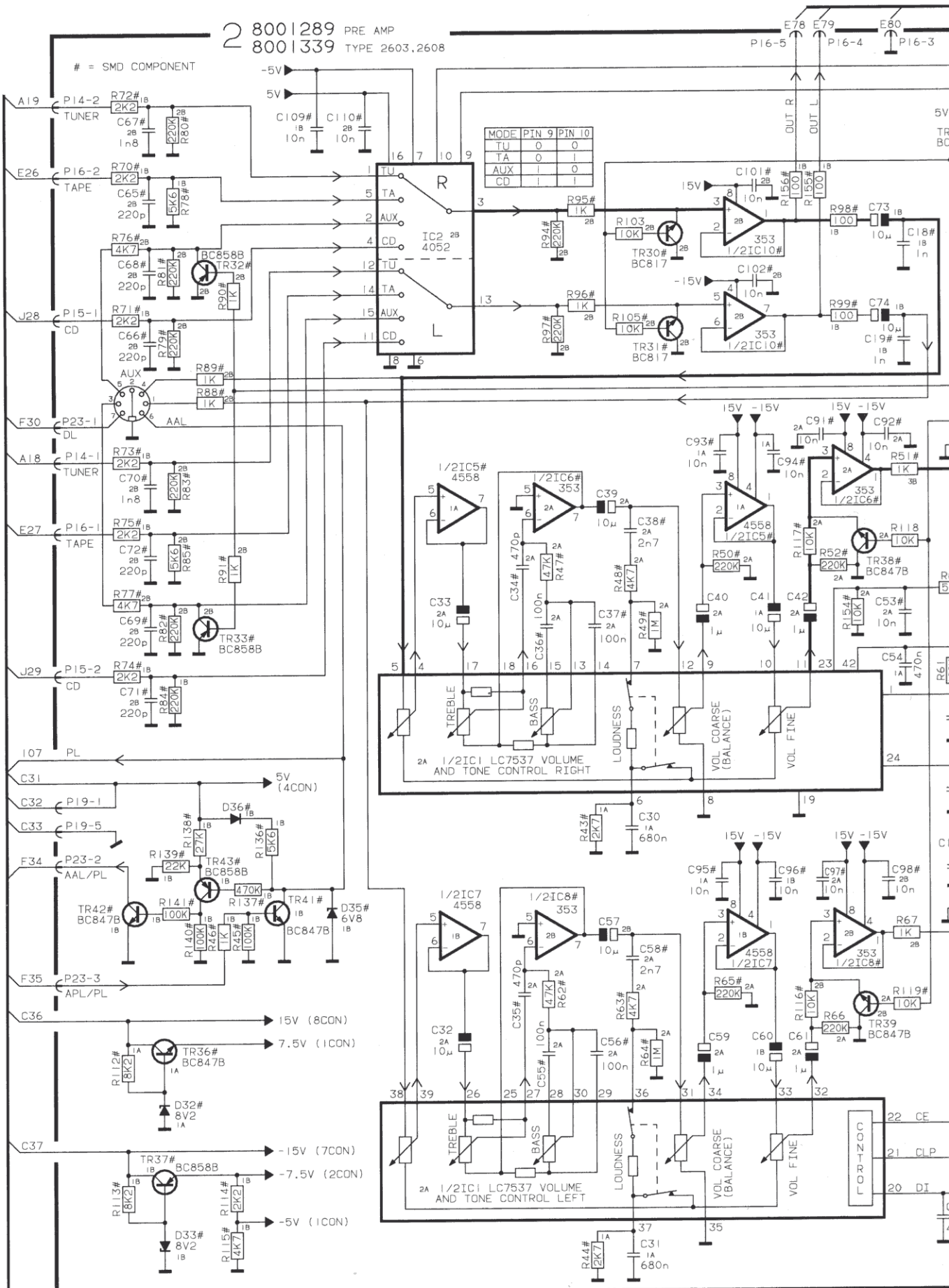

MPX RDS P4-1 L20
P4-2 L21
P3-2 B19
AF RIGHT
P3-1 B18
AF LEFT
MPX FILTER RIGHT
MPX FILTER LEFT
TR2 BC868
TR1# BC847B
TR7# BC847B
TR8# BC848C
TR9# BC847B
TR10# BC848C
TR11# BC847B
TR4# BC847B
TR14# BF840
TR15# BC847B
IC4 LA3401 STEREO DECODER
MUTING AM/FM CHANGE OVER
DECODER
OSC COMPARATOR
MONO/ STEREO
AM/FM CHANGE OVER CONTROL
75µs DEEMPHASIS ONLY TYPE 2603, 2608, (SEE PIN 6)
75µs (SEE PIN7)
IC3# LC7218
PHASE DETECTOR CHARGE PUMP
SHIFT REGISTER LATCH
12 BIT PROGRAMMABLE COUNTER
SWALLOW COUNTER 1/16, 1/17,4 BITS
REFERENCE DIVIDER
÷2
DATA OUT
CLOCK
DATA IN
CHIP ENABLE
STOP/STEREO
STOP SENSE
MONO/STEREO
AM/FM
AM OSC
FM OSC
X1 3.6MHz
X2 456kHz
LM358N
FM
AM
10.5V
15V
28V
5V
10.5V (15CON)
10.5V POWER ON/OFF
P6-1 F10
P7-2 B13
P7-1 B12
P6-2 F11
P10-4 L17
P10-3 L16
P10-2 L15
P10-1 L14
*-VARIANT DETECTION (IC3):
J4 CUT: TYPE 2605, 2610
J5 CUT: TYPE 2603, 2608 (SEE ALSO IC4 PIN 6 AND 7)
J4+J5 CUT: TYPE 2604, 2609
•ONLY IN TYPES WITHOUT AM

DIAGRAM B PRE AMPLIFIER



8-9
DIAGRAM B
8-9

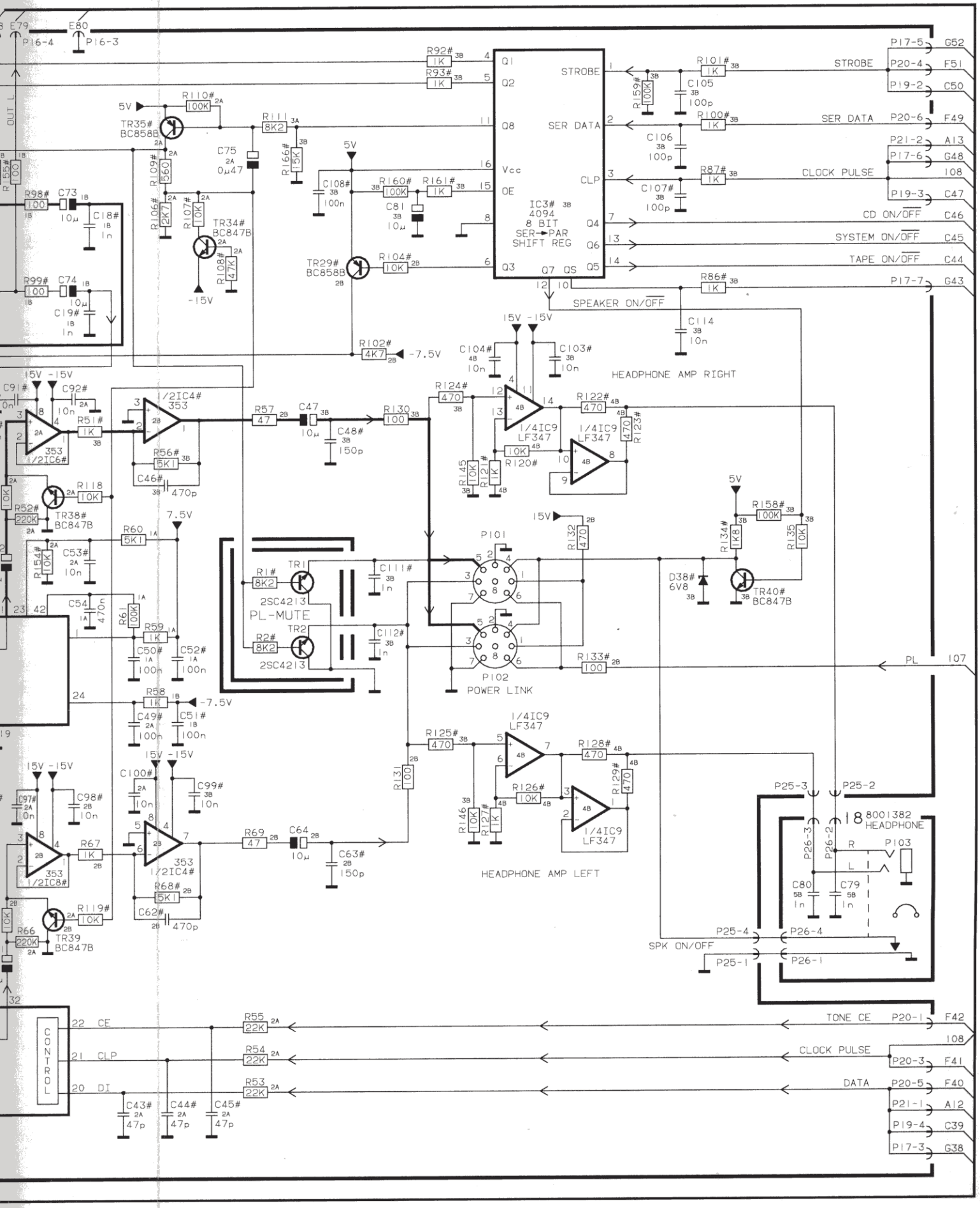
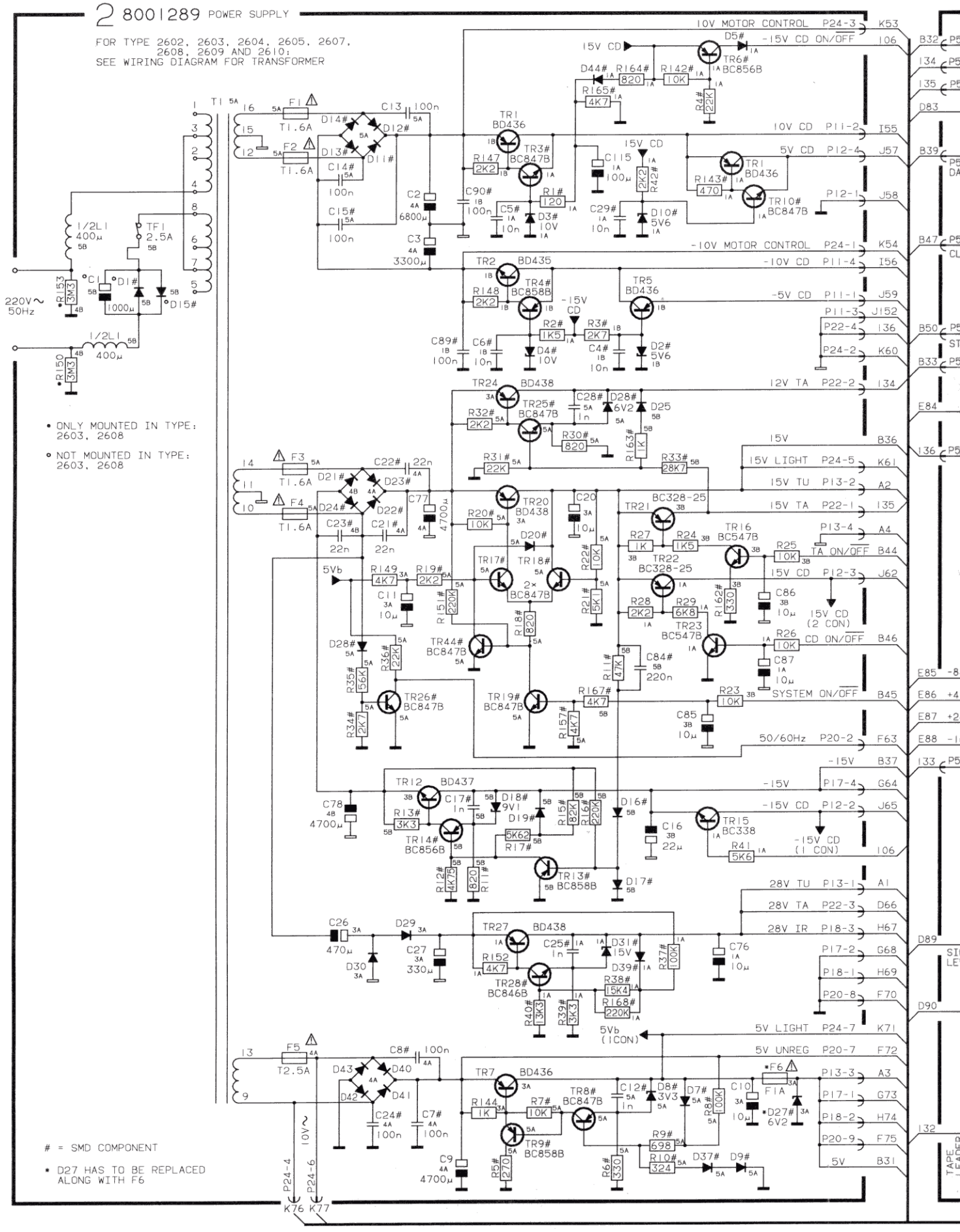


DIAGRAM C POWER SUPPLY, TAPE DATA CONTROL



8-10

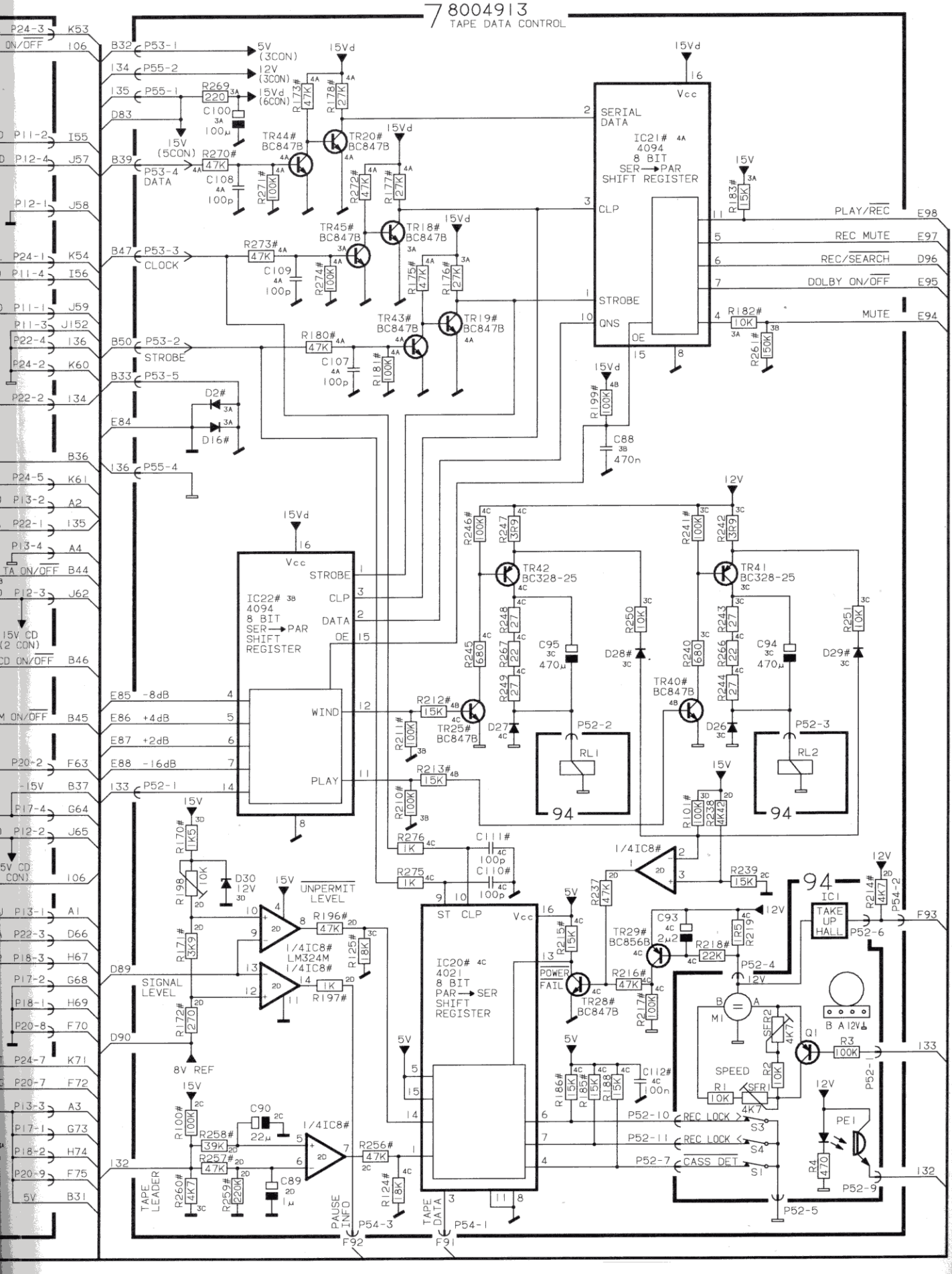
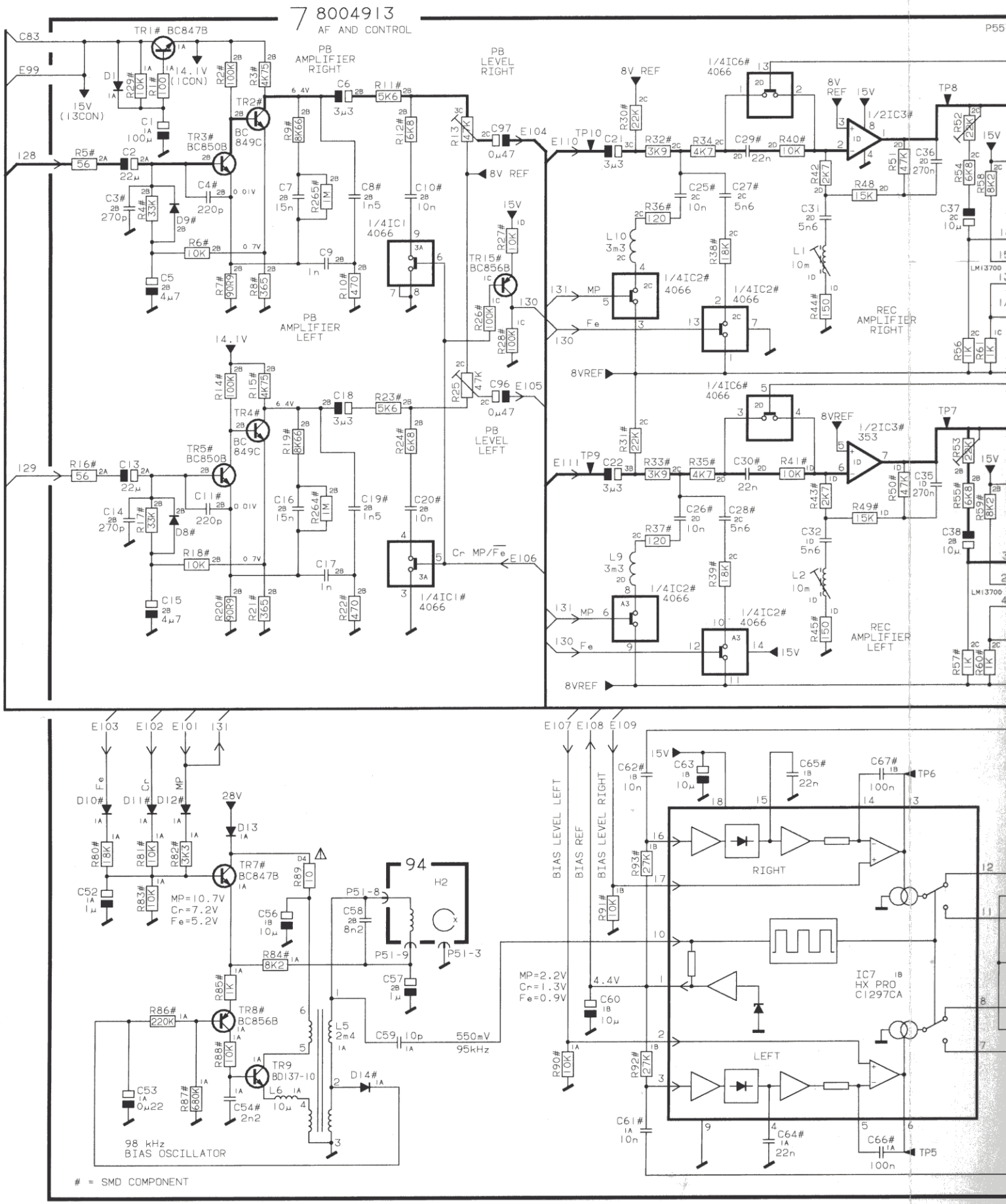

7 8004913
TAPE DATA CONTROL
IC21# 4094 8 BIT SER→PAR SHIFT REGISTER
IC22# 4094 8 BIT SER→PAR SHIFT REGISTER
IC20# 4021 8 BIT PAR→SER SHIFT REGISTER
IC1 TAKE UP HALL
1/4IC8# LM324M
SERIAL DATA
CLOCK
STROBE
DATA
SIGNAL LEVEL
UNPERMIT LEVEL
POWER FAIL
ST CLP
PLAY/REC
REC MUTE
REC/SEARCH
DOLBY ON/OFF
MUTE
REC LOCK
CASS DET
SPEED
TAPE LEADER
PAUSE INFO
TAPE DATA
8V REF
RL1
RL2
M1
PE1

DIAGRAM D TAPE AF AND CONTROL



8-11
DIAGRAM D
8-11

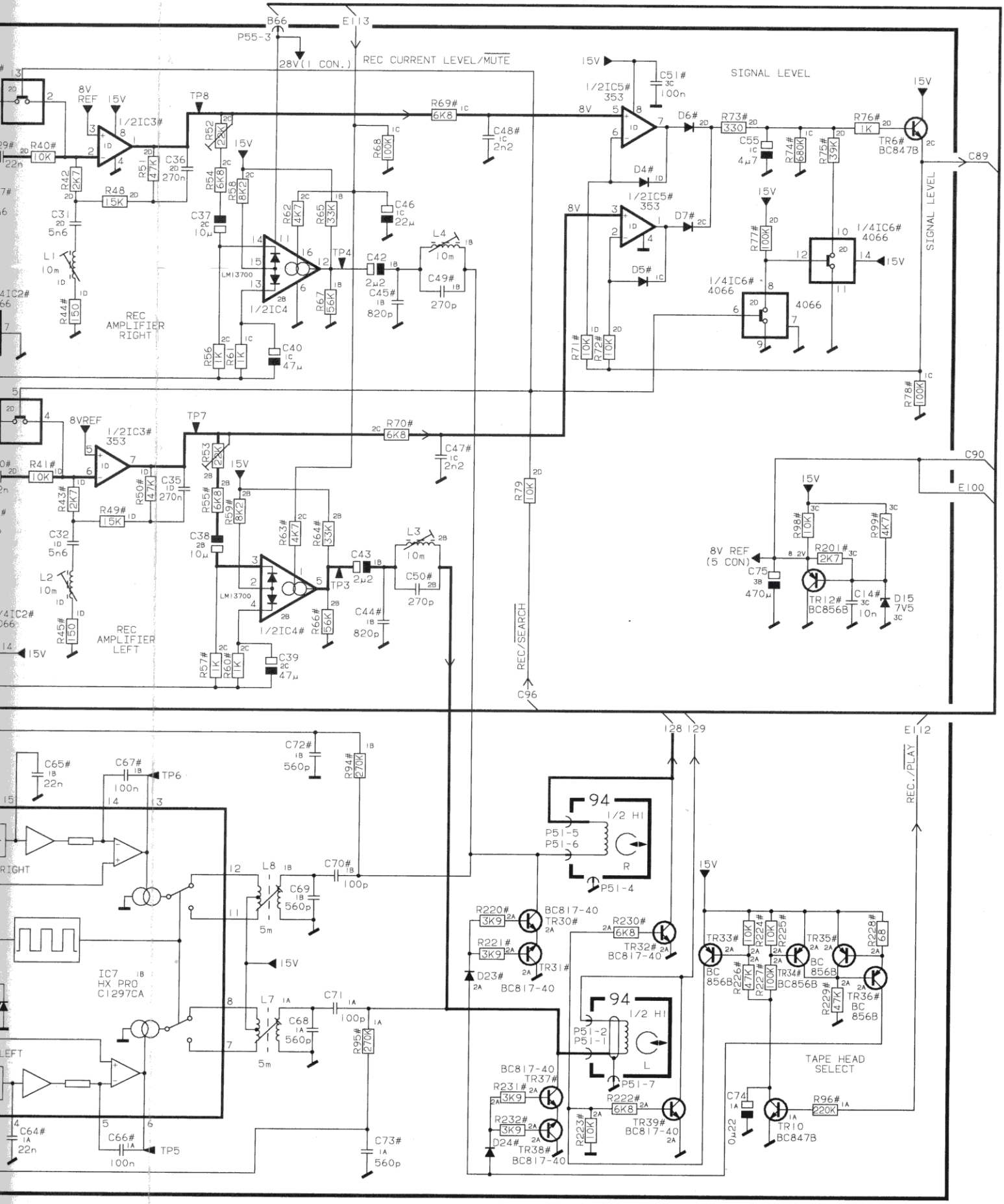
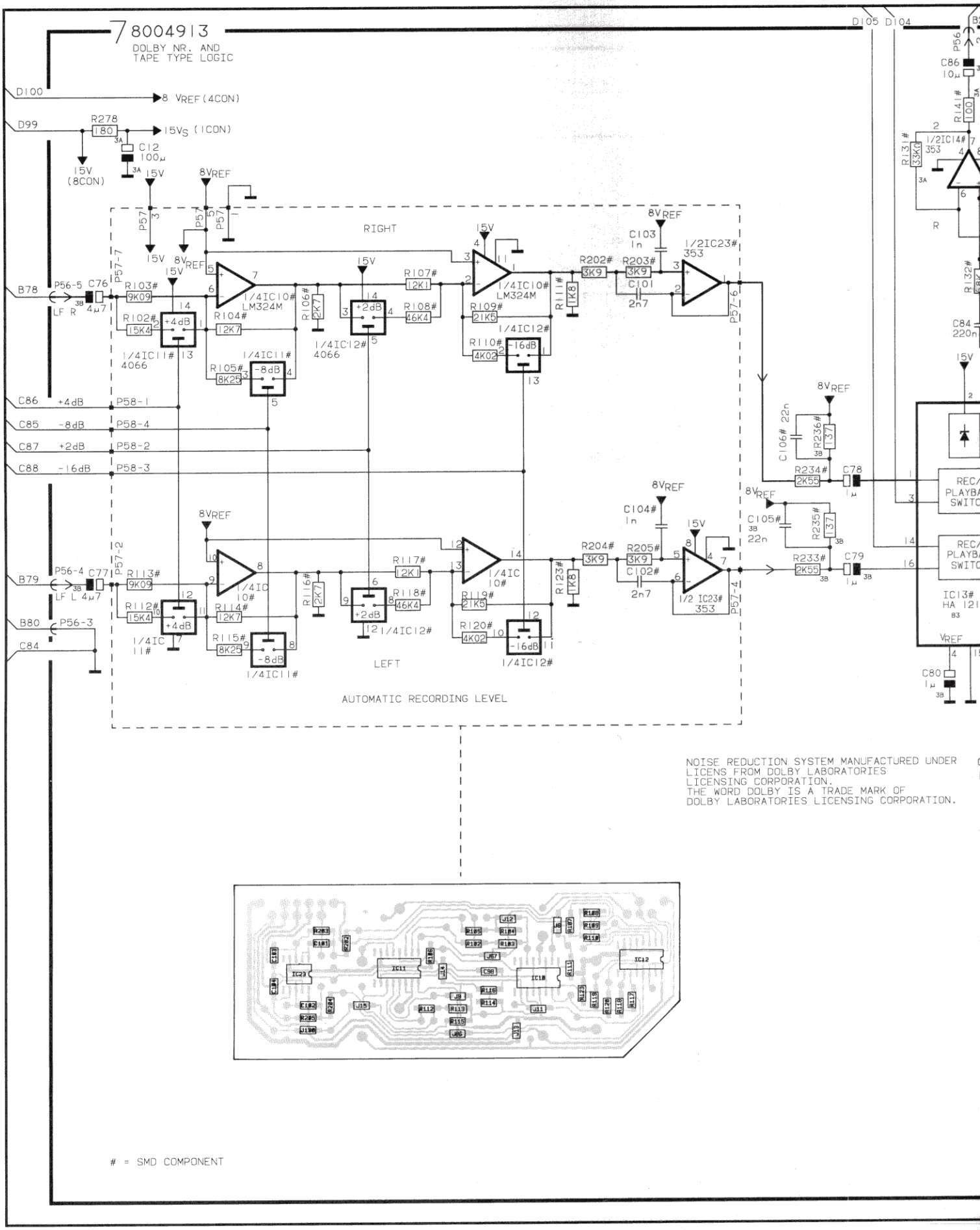
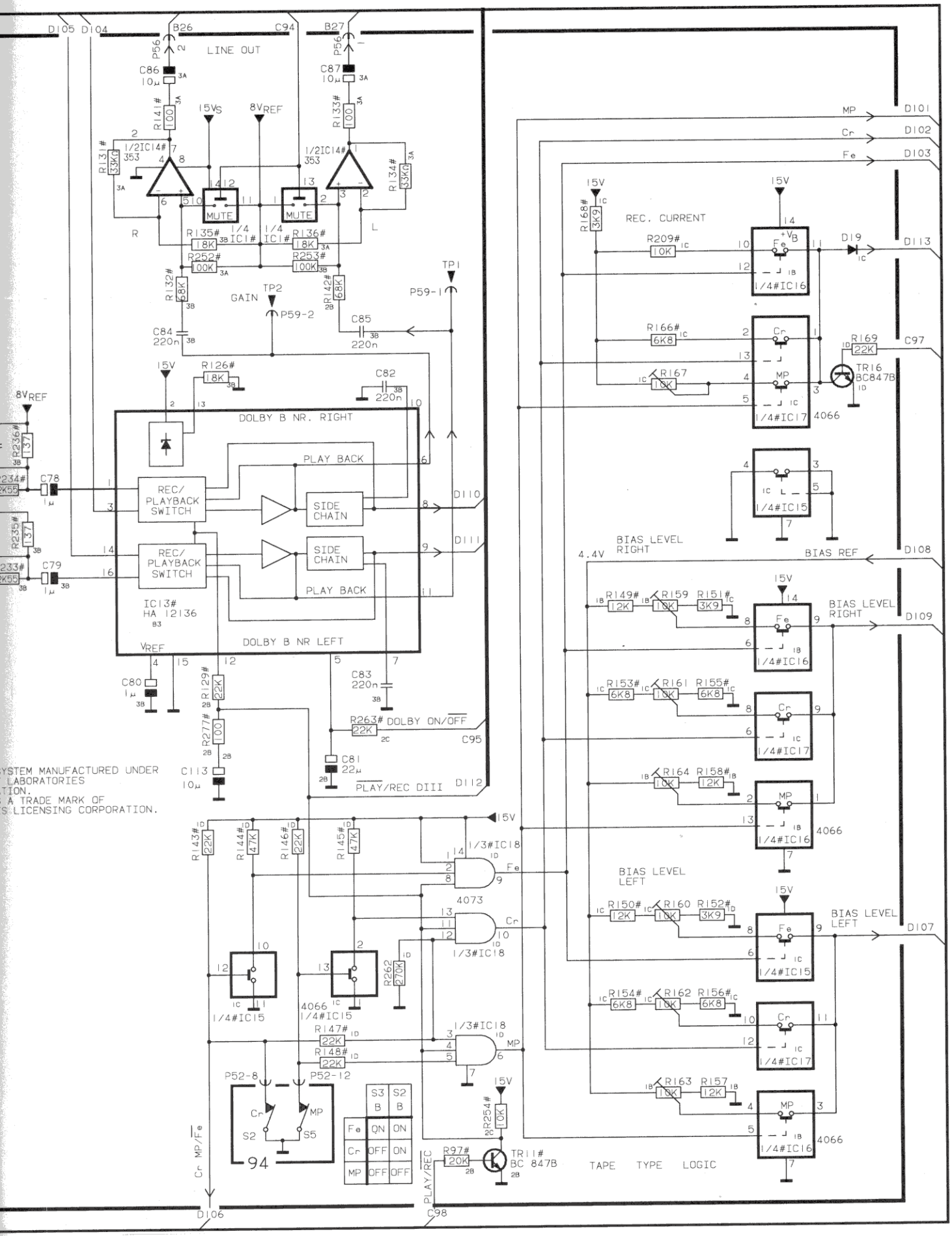


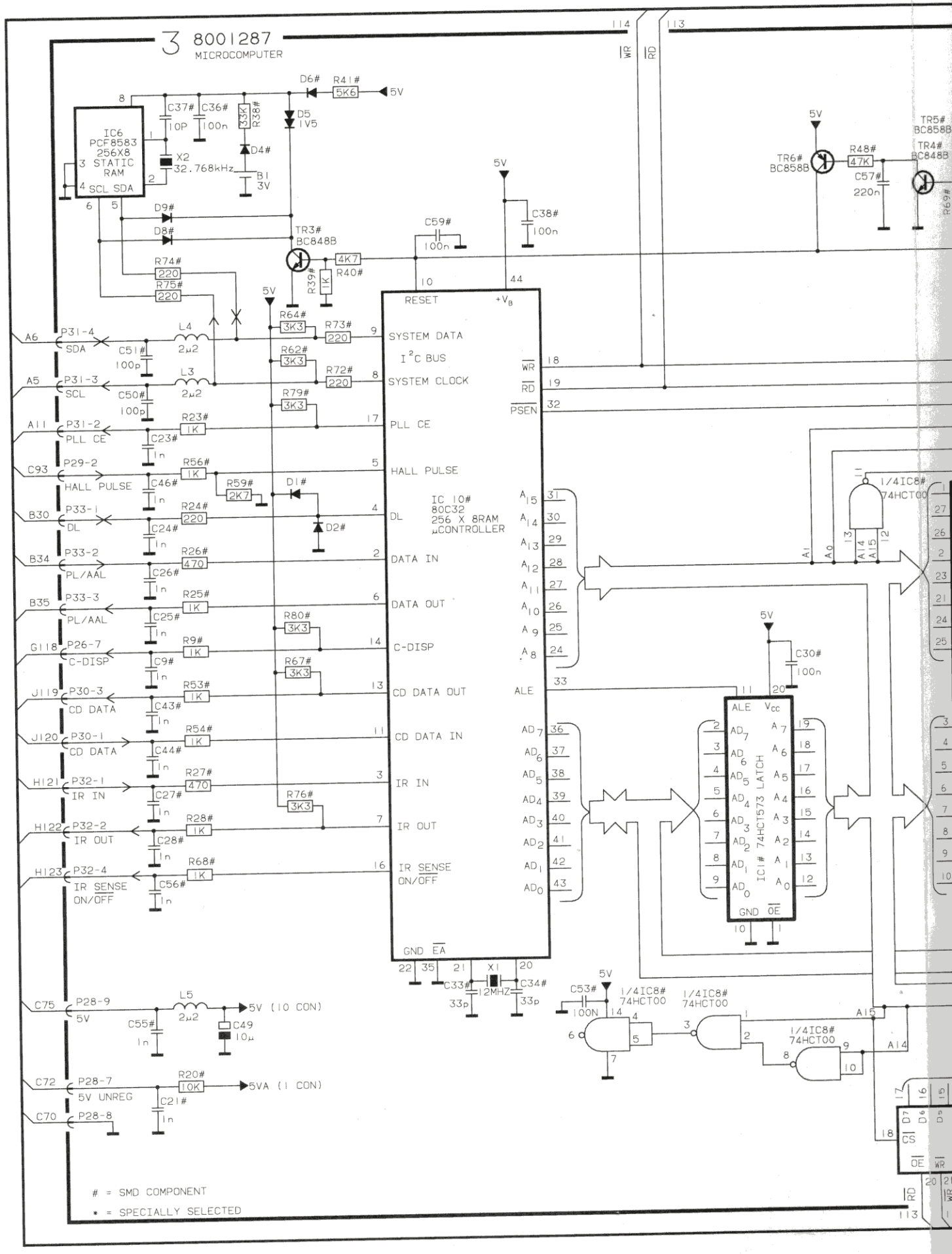
DIAGRAM E DOLBY NR AND TAPE TYPE LOGIC





SYSTEM MANUFACTURED UNDER
LABORATORIES
TION.
A TRADE MARK OF
S LICENSING CORPORATION.

DIAGRAM F MICROCOMPUTER



8-13
DIAGRAM F
8-13

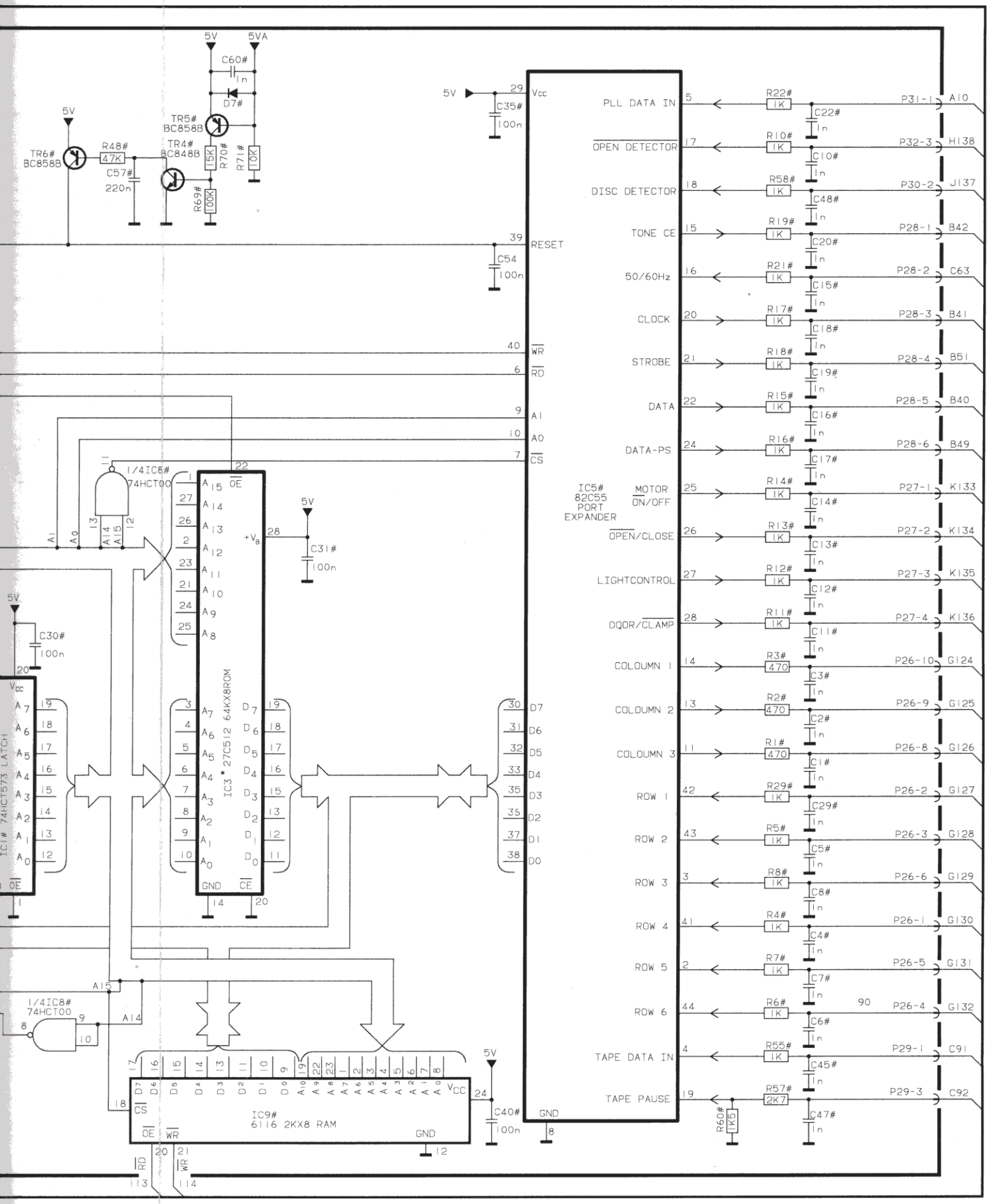
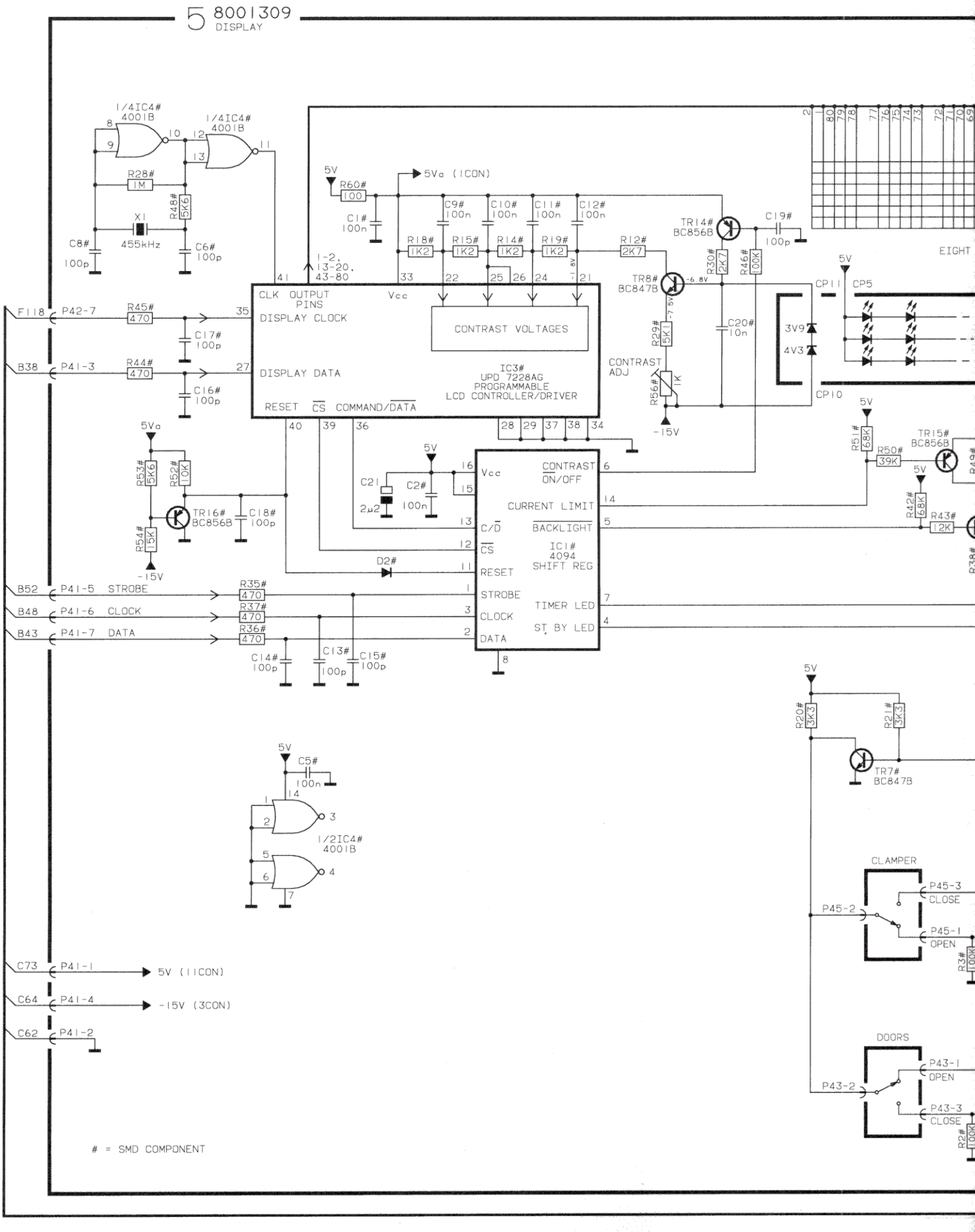


DIAGRAM G DISPLAY AND KEYBOARD



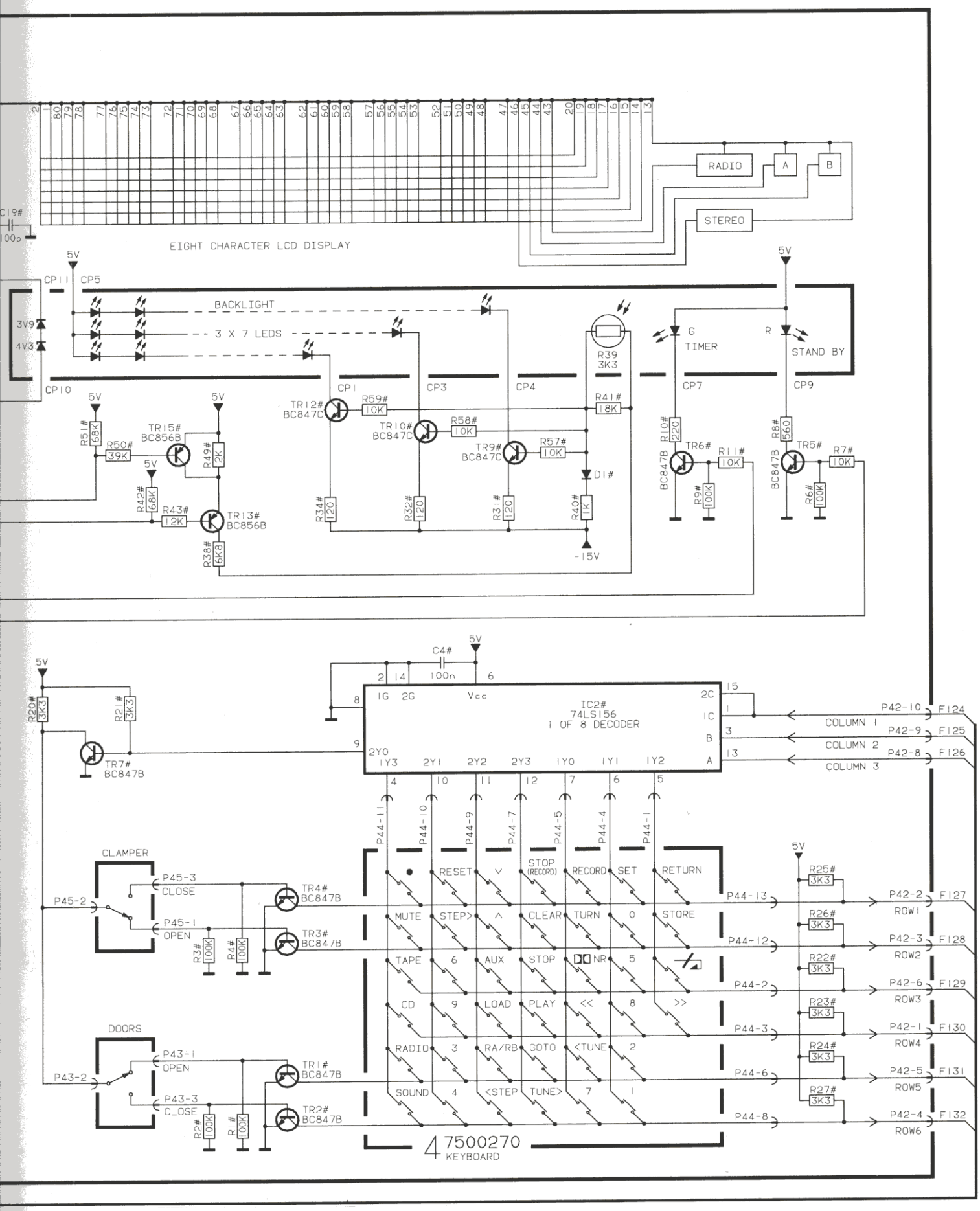
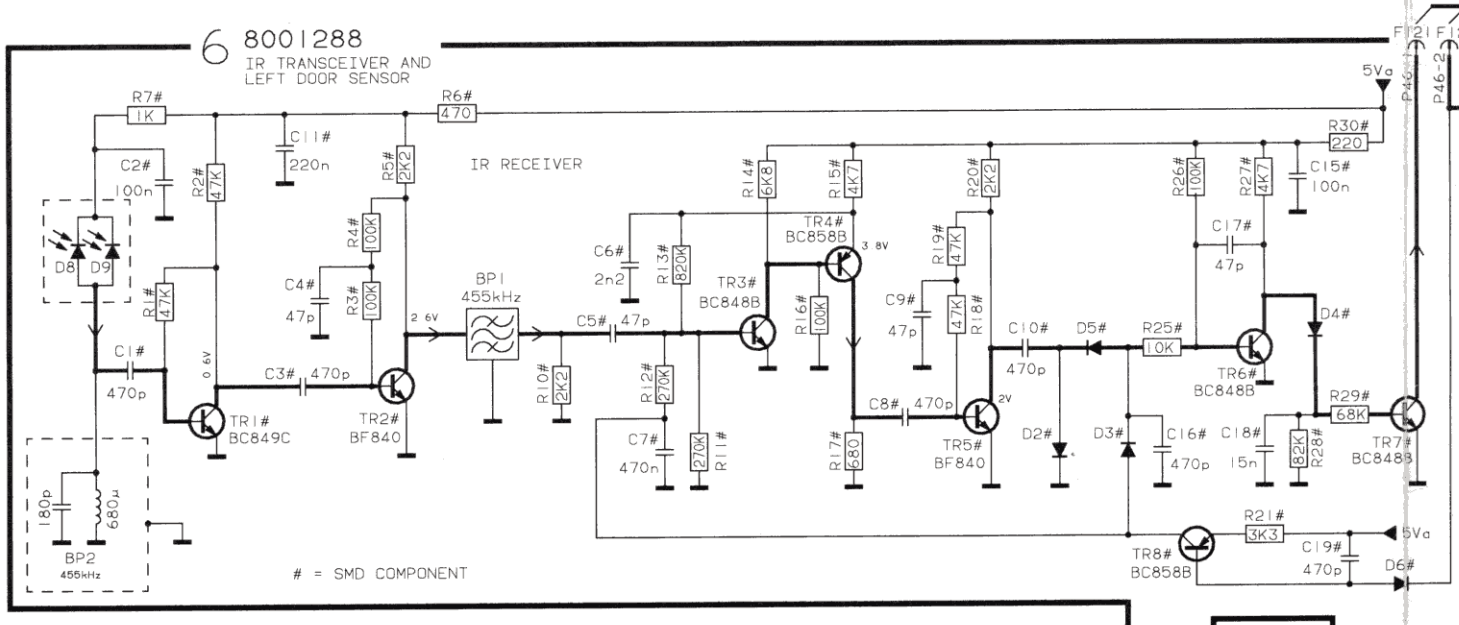
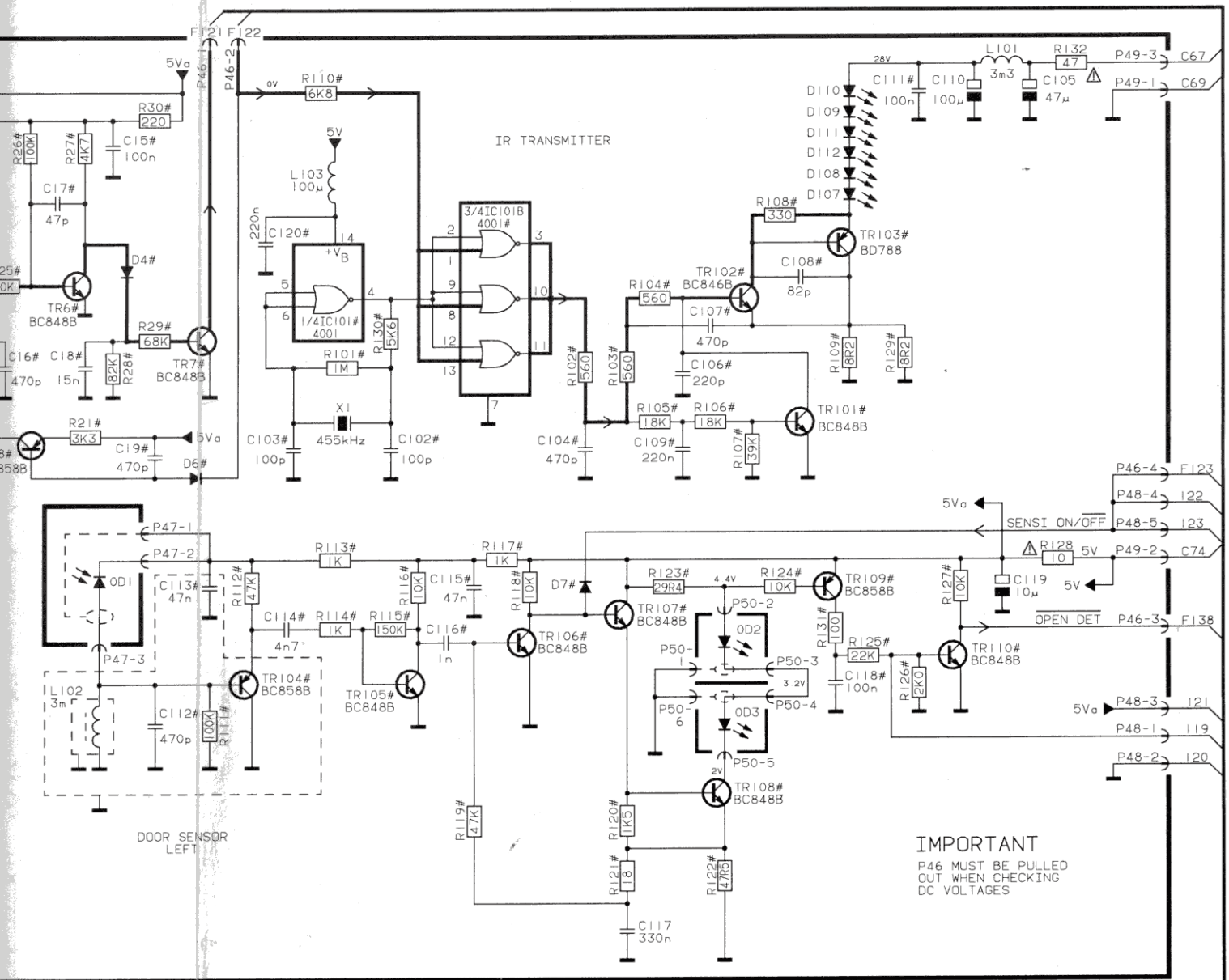

EIGHT CHARACTER LCD DISPLAY
RADIO
A
B
STEREO
BACKLIGHT
3 X 7 LEDS
TIMER
STAND BY
IC2#
74LS156
1 OF 8 DECODER
COLUMN 1
COLUMN 2
COLUMN 3
RESET
STOP
RECORD
SET
RETURN
MUTE
STEP>
CLEAR
TURN
STORE
TAPE
AUX
STOP
NR
CD
LOAD
PLAY
RADIO
RA/RB
GOTO
SOUND
CLAMPER
DOORS
CLOSE
OPEN
ROW1
ROW2
ROW3
ROW4
ROW5
ROW6
4 7500270
KEYBOARD

DIAGRAM H IR TRANSCEIVER AND DOOR SENSORS



8-15
DIAGRAM H
8-15



8001320
RIGHT DOOR SENSOR

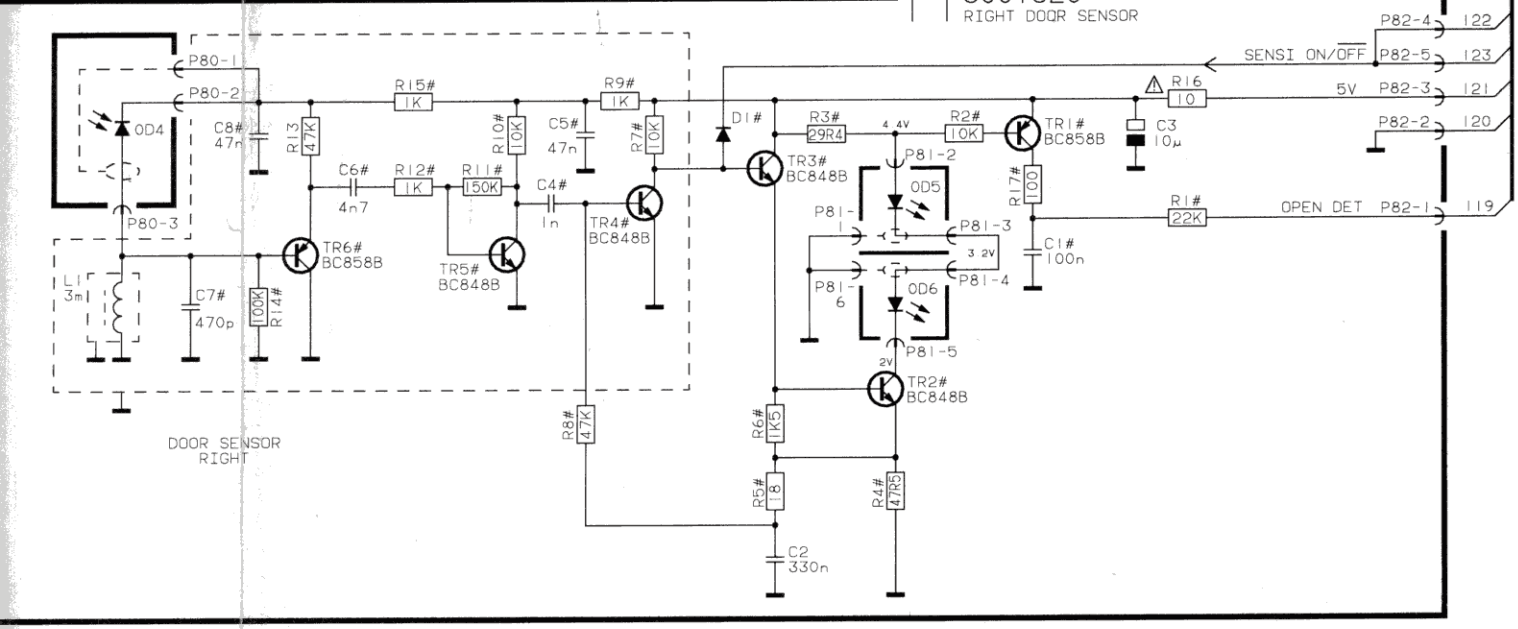
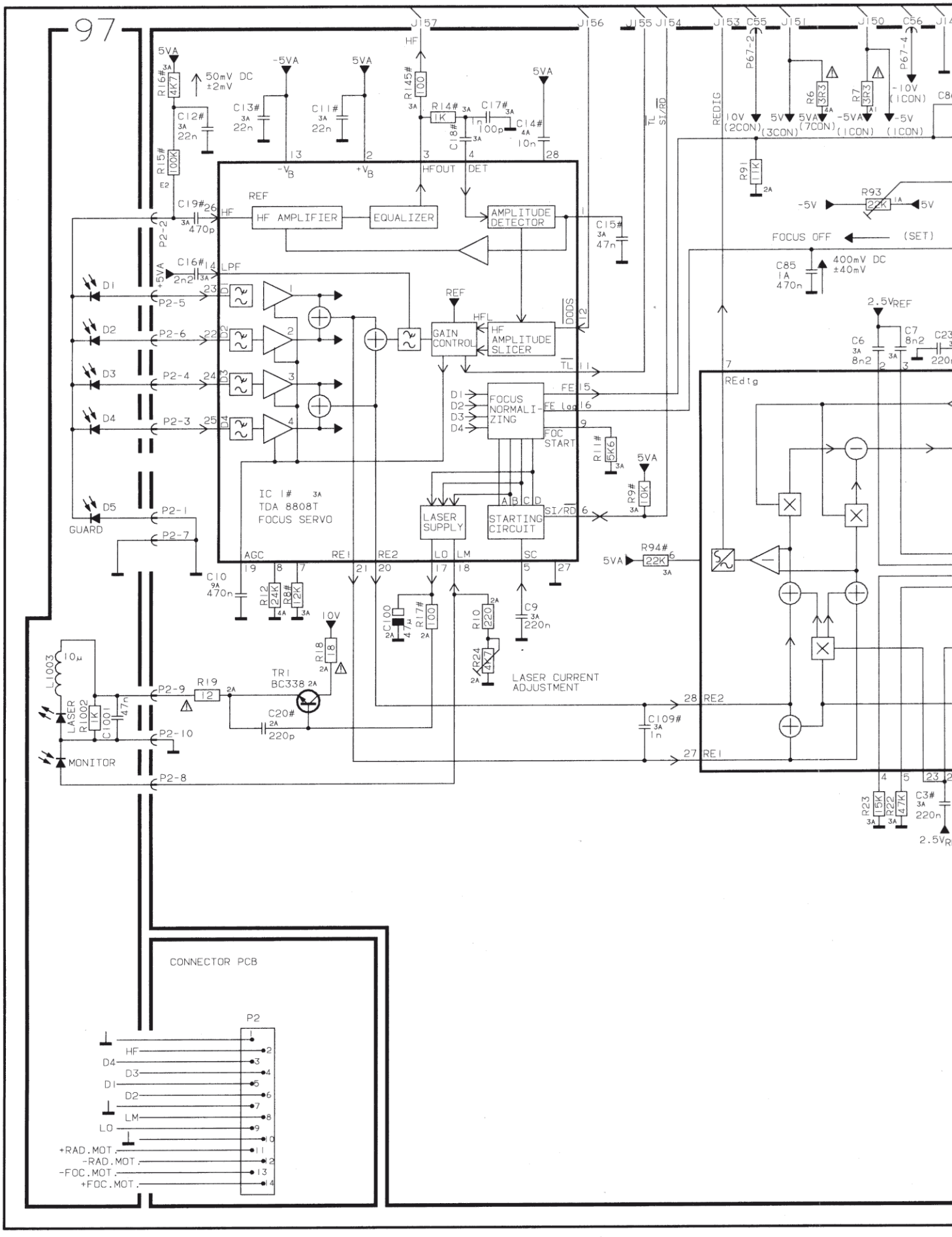


DIAGRAM I CD SERVO MOTOR SYSTEM AND DISC DETECTOR



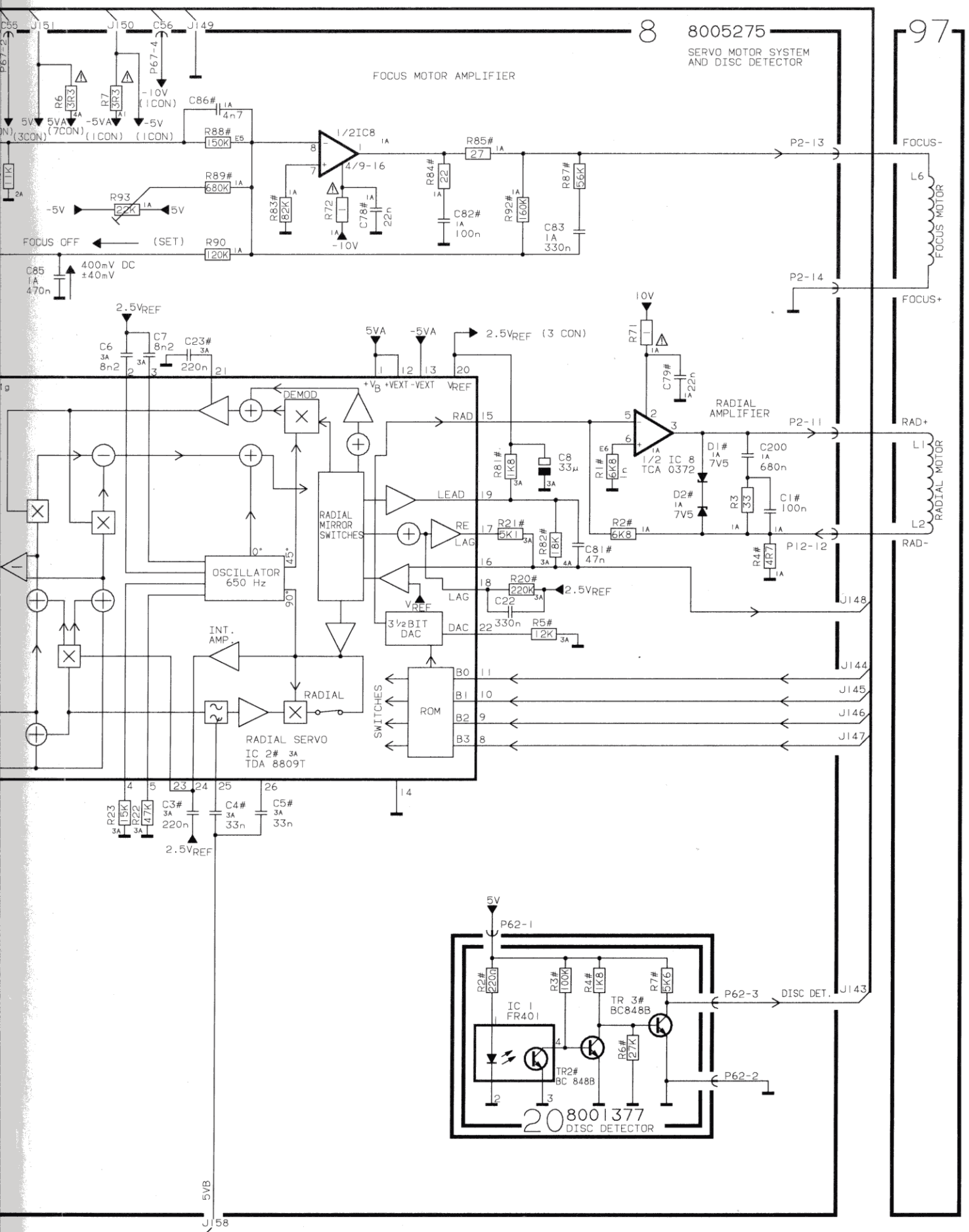
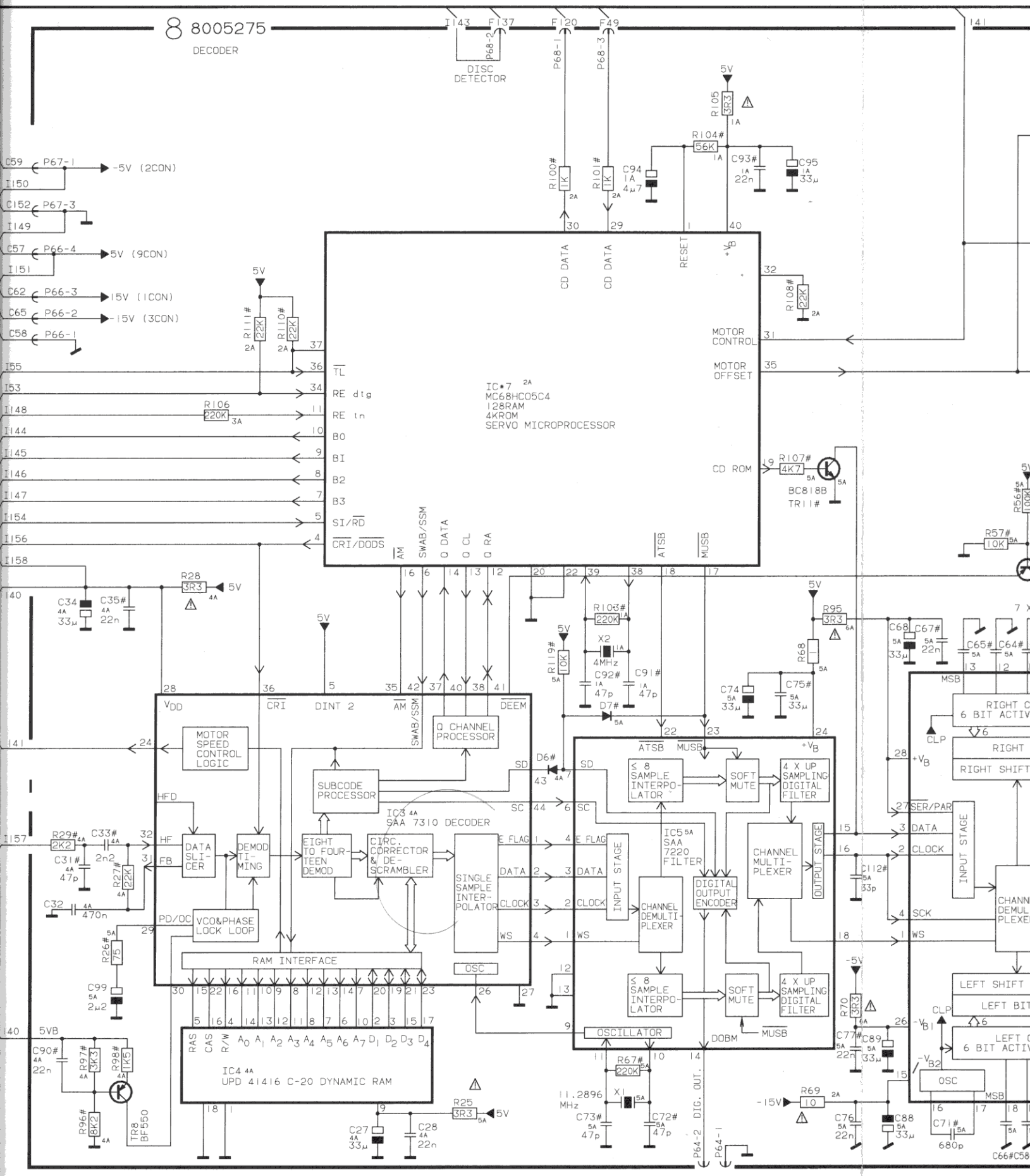

8
8005275
SERVO MOTOR SYSTEM
AND DISC DETECTOR
97
FOCUS MOTOR AMPLIFIER
FOCUS OFF
(SET)
400mV DC
±40mV
1/2IC8
4/9-16
P2-13
FOCUS-
L6
FOCUS MOTOR
P2-14
FOCUS+
2.5VREF
5VA
-5VA
2.5VREF (3 CON)
RADIAL
AMPLIFIER
1/2 IC 8
TCA 0372
P2-11
RAD+
L1
RADIAL MOTOR
L2
P12-12
RAD-
DEMOD
RADIAL
MIRROR
SWITCHES
OSCILLATOR
650 Hz
INT.
AMP.
RADIAL
RADIAL SERVO
IC 2#
TDA 8809T
3½BIT
DAC
ROM
SWITCHES
J148
J144
J145
J146
J147
5V
P62-1
P62-3
DISC DET.
J143
P62-2
IC 1
FR401
TR 3#
BC848B
TR2#
BC 848B
20
8001377
DISC DETECTOR
5VB
J158

DIAGRAM J CD DECODER



8-17
DIAGRAM J
8-17

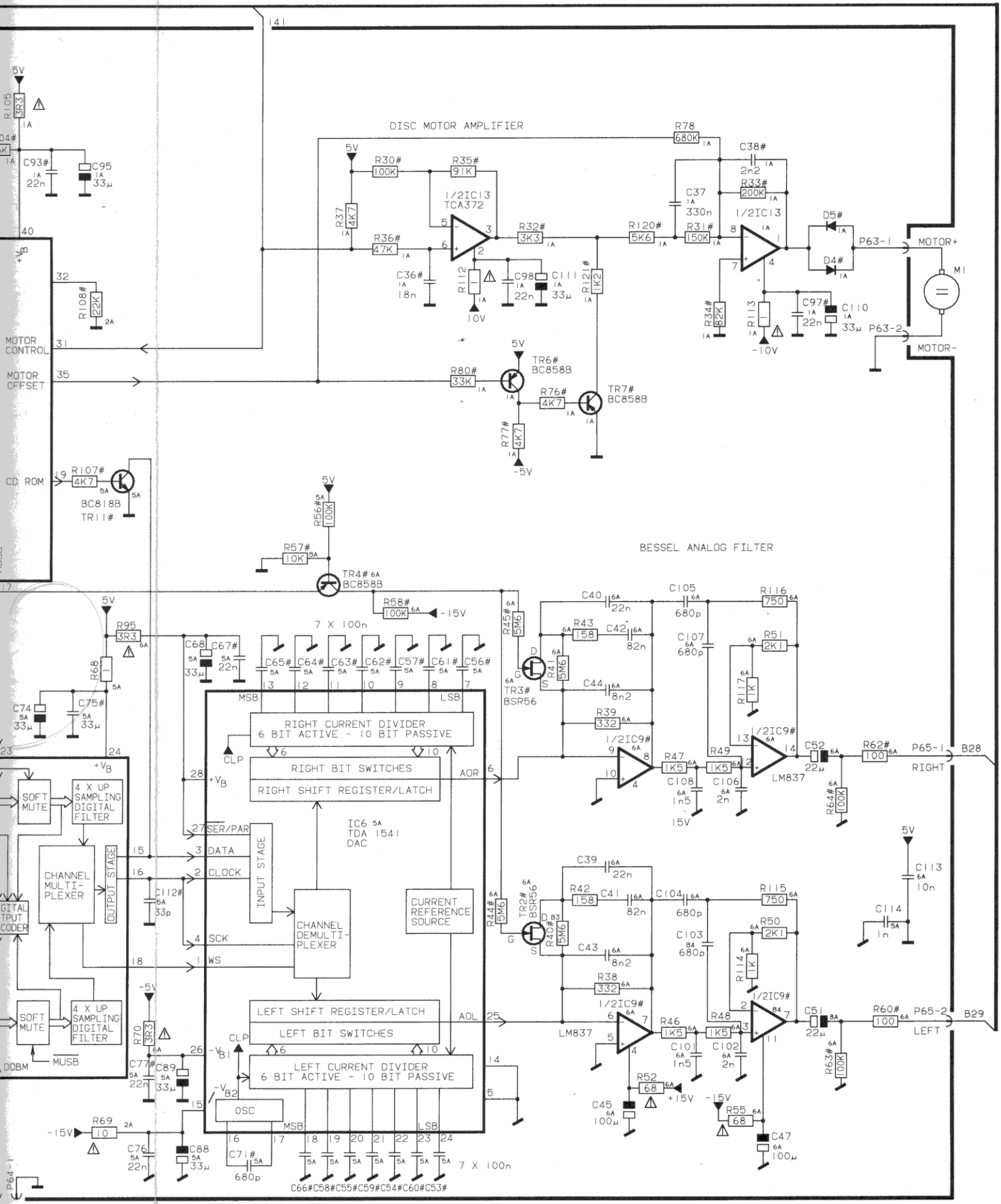
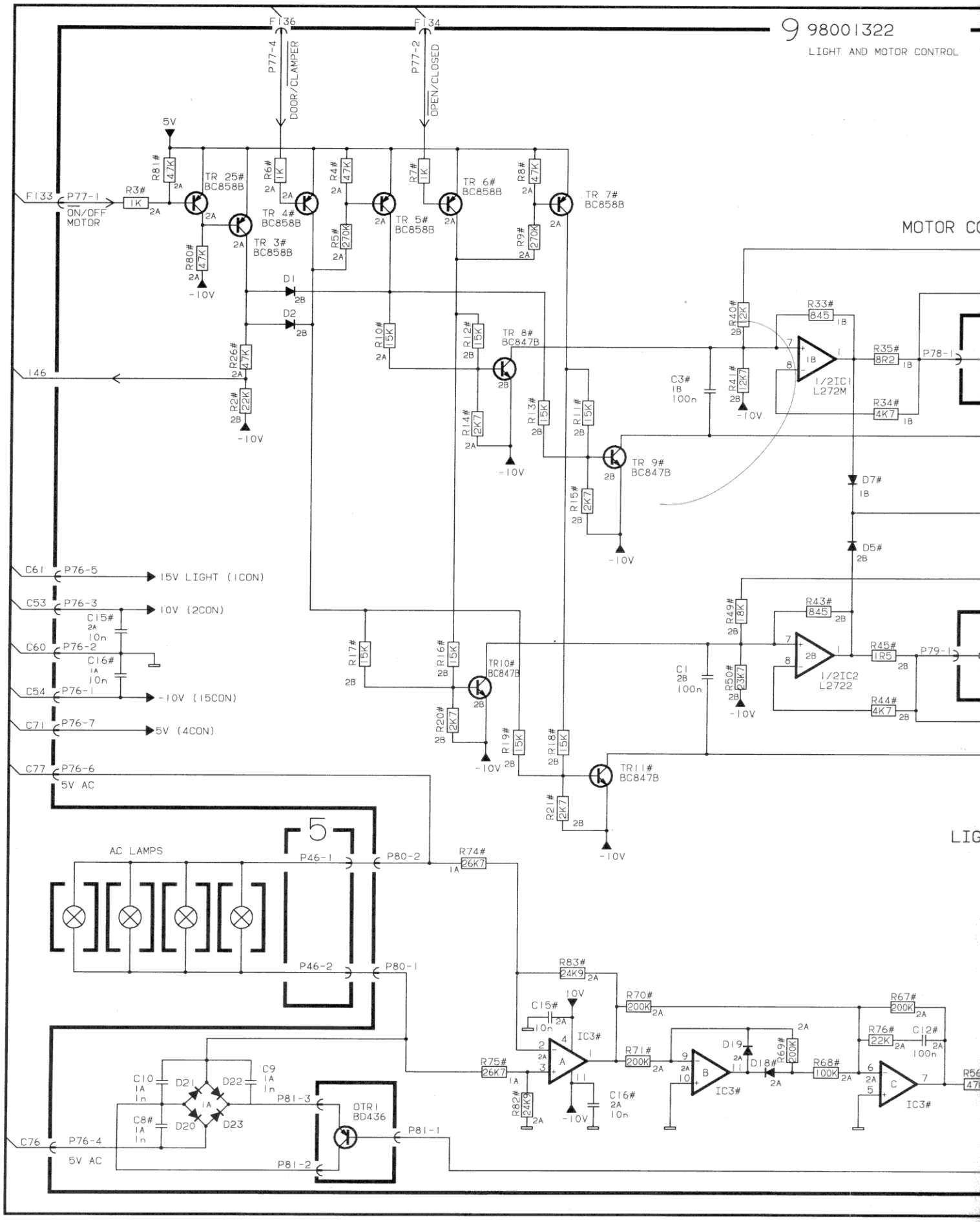


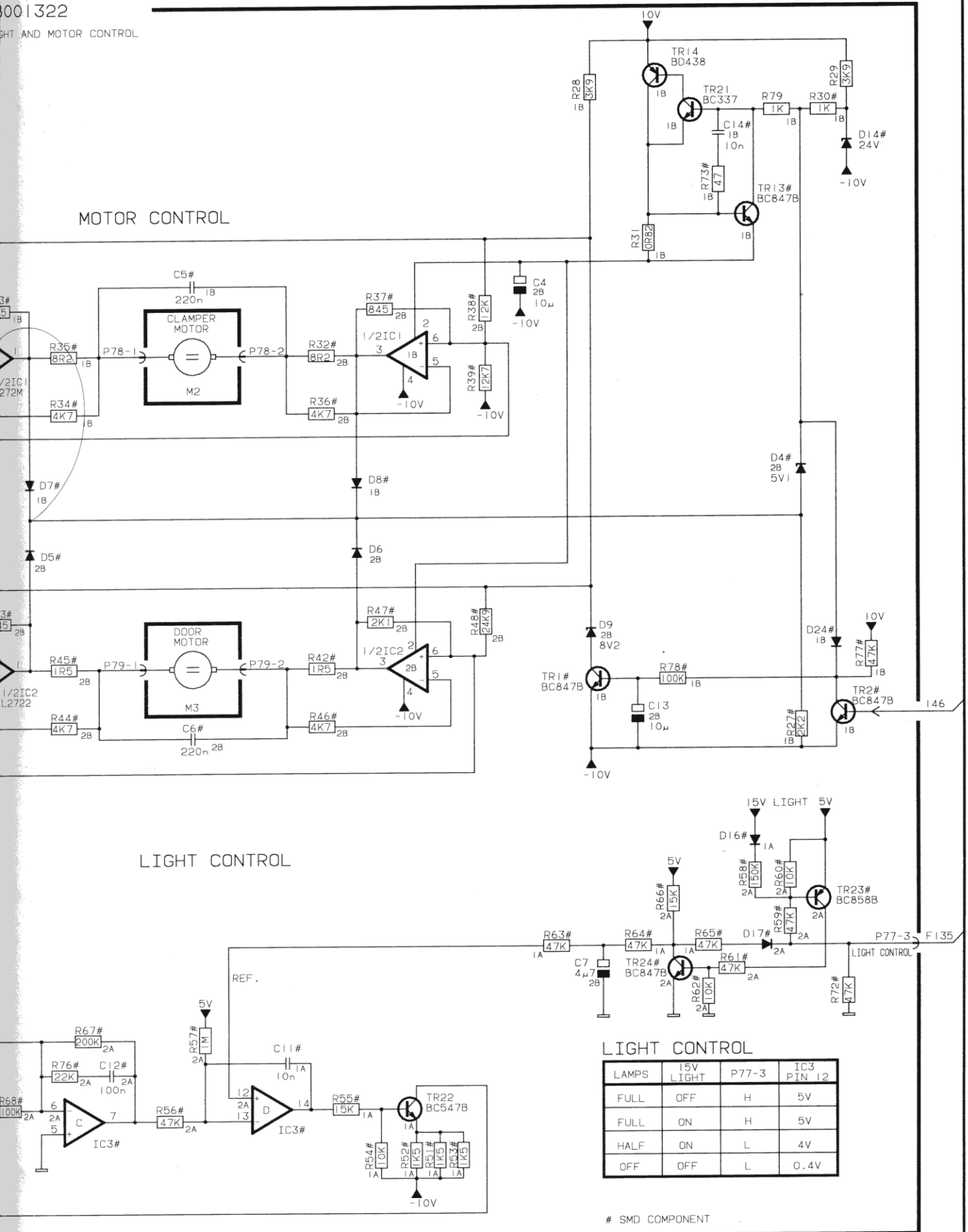
DIAGRAM K LIGHT AND MOTOR CONTROL



8-18

3001322

GHT AND MOTOR CONTROL

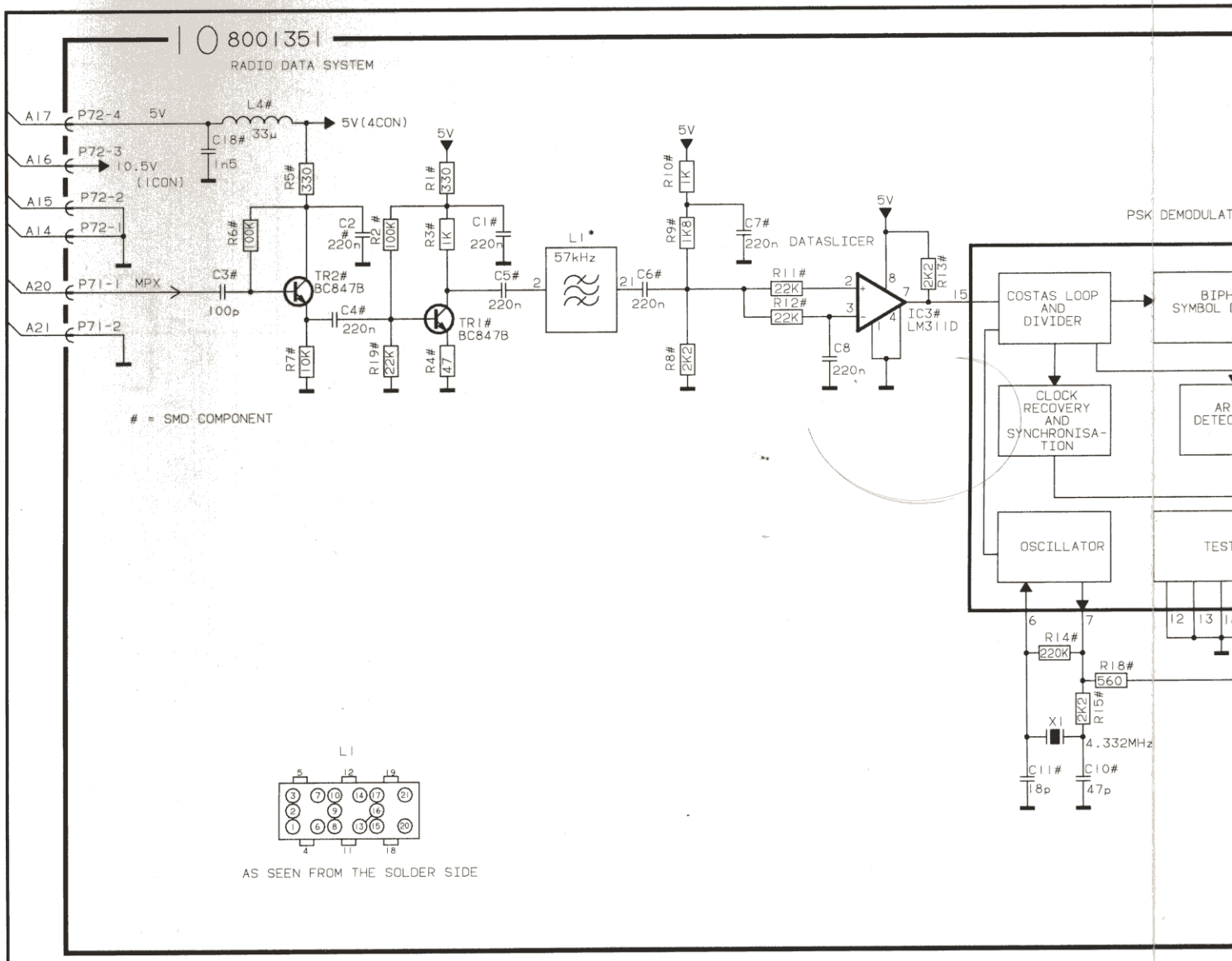


LIGHT CONTROL

LAMPS	15V LIGHT	P77-3	IC3 PIN 12
FULL	OFF	H	5V
FULL	ON	H	5V
HALF	ON	L	4V
OFF	OFF	L	0.4V

SMD COMPONENT

DIAGRAM L RADIO DATA SYSTEM



8-19
DIAGRAM L
8-19

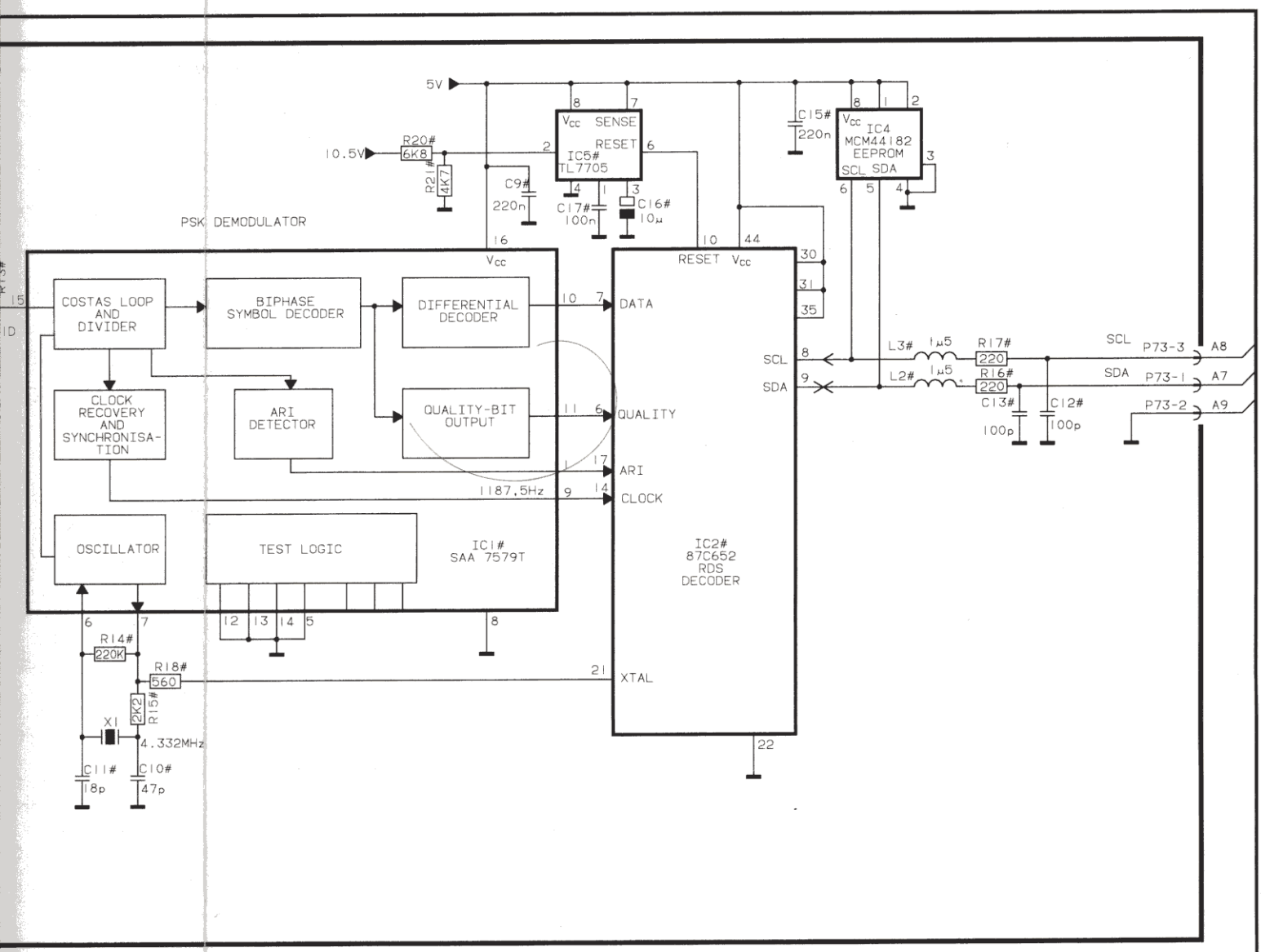
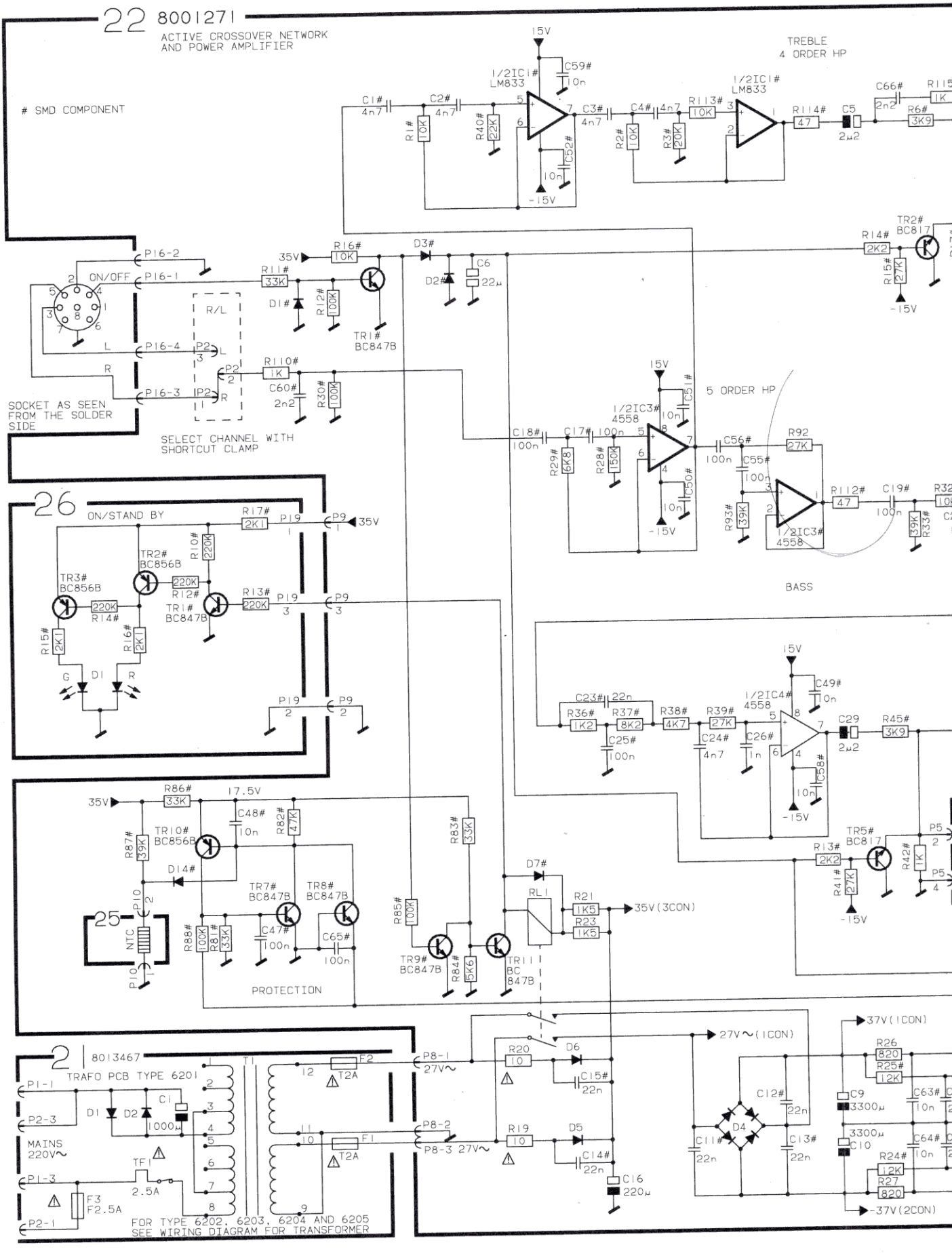
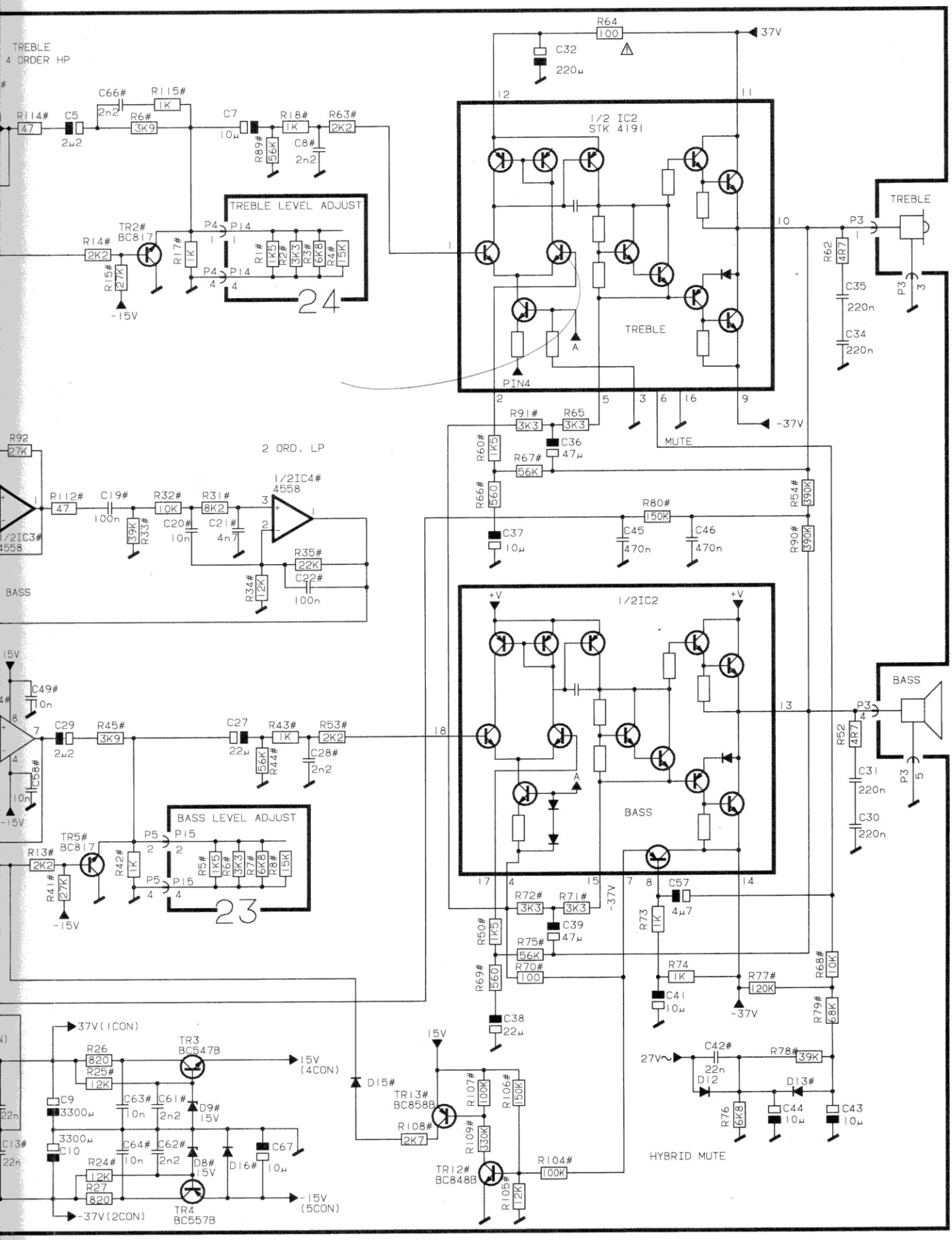


DIAGRAM M BEOLAB 2500 ACTIVE CROSSOVER NETWORK AND POWER AMPLIFIER




TREBLE
4 ORDER HP
R114# 47
C5 2µ2
C66# 2n2
R115# 1K
R6# 3K9
C7 10µ
R89# 56K
R18# 1K
C8# 2n2
R63# 2K2
TREBLE LEVEL ADJUST
TR2# BC817
R14# 2K2
R15# 27K
-15V
R17# 1K
R1# 1K5
R2# 3K3
R3# 6K8
R4# 15K
24
R64 100
C32 220µ
37V
1/2 IC2 STK 4191
TREBLE
PIN4
A
R62 4R7
C35 220n
C34 220n
P3
MUTE
-37V
R91# 3K3
R65 3K3
C36 47µ
R67# 56K
R60# 1K5
R66# 560
C37 10µ
R80# 150K
C45 470n
C46 470n
R54# 390K
R90# 390K
2 ORD. LP
R92 27K
R112# 47
C19# 100n
R32# 10K
R31# 8K2
C20# 10n
C21# 4n7
1/2IC4# 4558
R35# 22K
C22# 100n
R34# 12K
1/2IC3# 4558
BASS
1/2IC2
BASS LEVEL ADJUST
TR5# BC817
R13# 2K2
R41# 27K
R42# 1K
R5# 1K5
R6# 3K3
R7# 6K8
R8# 15K
23
C49# 10n
C29 2µ2
R45# 3K9
C27 22µ
R43# 1K
R53# 2K2
R44# 56K
C28# 2n2
C58# 10n
R72# 3K3
R71# 3K3
C57 4µ7
R73 1K
R50# 1K5
C39 47µ
R75# 56K
R70# 100
R69# 560
C38 22µ
R74 1K
C41 10µ
R77# 120K
R68# 10K
R79# 68K
37V(1CON)
TR3 BC547B
R26 820
R25# 12K
15V (4CON)
C9 3300µ
C63# 10n
C61# 2n2
D9# 15V
C10 3300µ
C64# 10n
C62# 2n2
D8# 15V
D16#
C67 10µ
R24# 12K
R27 820
-15V (5CON)
-37V(2CON)
TR4 BC557B
D15#
TR13# BC858B
R107# 100K
R106# 150K
R108# 2K7
R109# 330K
TR12# BC848B
R104# 100K
R105# 1K2
HYBRID MUTE
27V~
C42# 22n
R78# 39K
D12
D13#
R76 6K8
C44 10µ
C43 10µ